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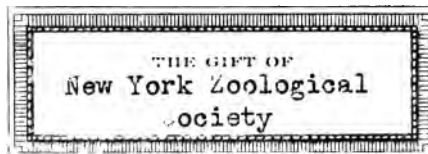
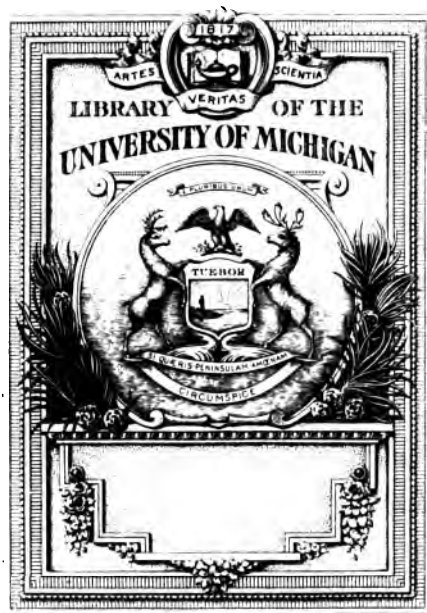
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FIRST ANNUAL REPORT  
OF THE  
NEW YORK  
ZOOLOGICAL SOCIETY

CHARTERED IN 1895

OBJECTS OF THE SOCIETY  
A PUBLIC ZOOLOGICAL PARK  
THE PRESERVATION OF OUR NATIVE ANIMALS  
THE PROMOTION OF ZOOLOGY



NEW YORK  
OFFICE OF THE SOCIETY, 69 WALL STREET  
MARCH 15, 1897







BIRD'S-EYE VIEW OF THE PROPOSED ZOOLOGICAL PARK.  
FROM A PHOTOGRAPH OF THE SOCIETY'S TOPOGRAPHIC MODEL.

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OF THE  
NEW YORK  
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MARCH 15, 1897



L. S. FOSTER,  
PRINTER,  
NEW YORK.



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Zoological Society  
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MANICE, DE FOREST . . . . .	1896

**NOTE.**—Up to the date of the issue of this Report, no special effort has been made to increase the membership of the Society. Now, however, the success of the Society's application for South Bronx Park is no longer in doubt, for it is certain that the necessary official action will be taken within a very short time. It is now desirable to secure to the Society the sympathy and support of a large body of members. The magnitude of the work to be accomplished requires the support of a permanent membership of at least two thousand persons.

Each member of the Society is therefore earnestly requested to help increase our membership. Application blanks will be supplied upon request. There is no initiation fee. The annual dues for members are \$10; and in a short time the benefits and privileges of members will be well worth that sum. The life member's fee is \$200; patron's fee, \$1,000, and founder's fee, \$5,000.

## THE NEW YORK ZOOLOGICAL SOCIETY.—ITS PLANS AND PURPOSES.

---

The movement to establish a great zoological park for the people of New York, is the outcome of the civic spirit which has established the Museums, the Public Library and the Botanical Garden. Besides its direct advantages, the Zoological Park will be of great service in adding animals from all parts of the world to the collections of the American Museum. Its proximity of location to the Botanical Garden will increase the attractiveness and usefulness of both institutions.

Briefly stated, the various objects of the Zoological Society may be grouped together as follows :

First.—*The establishment of a free zoological park containing collections of North American and exotic animals, for the benefit and enjoyment of the general public, the zoologist, the sportsman and every lover of nature.*

Second.—*The systematic encouragement of interest in animal life, or zoology, amongst all classes of the people, and the promotion of zoological science in general.*

Third.—*Co-operation with other organizations in the preservation of the native animals of North America, and encouragement of the growing sentiment against their wanton destruction.*

Beyond question, the foremost duty of the Society lies in the founding of a zoological park adequate to meet the demands for the education and recreation of the people of this great city. If any one doubts the public desire to know more of the living creatures who inhabit the earth and its waters, let him mingle for an hour in the crowds that throng the Battery Park Aquarium, or the Central Park Menagerie, and be convinced. In nearly every large city of Europe, and in many cities of this country, the zoological garden forms the chief centre of attraction, and the rallying point of all the various organizations and individuals who are in any way interested in

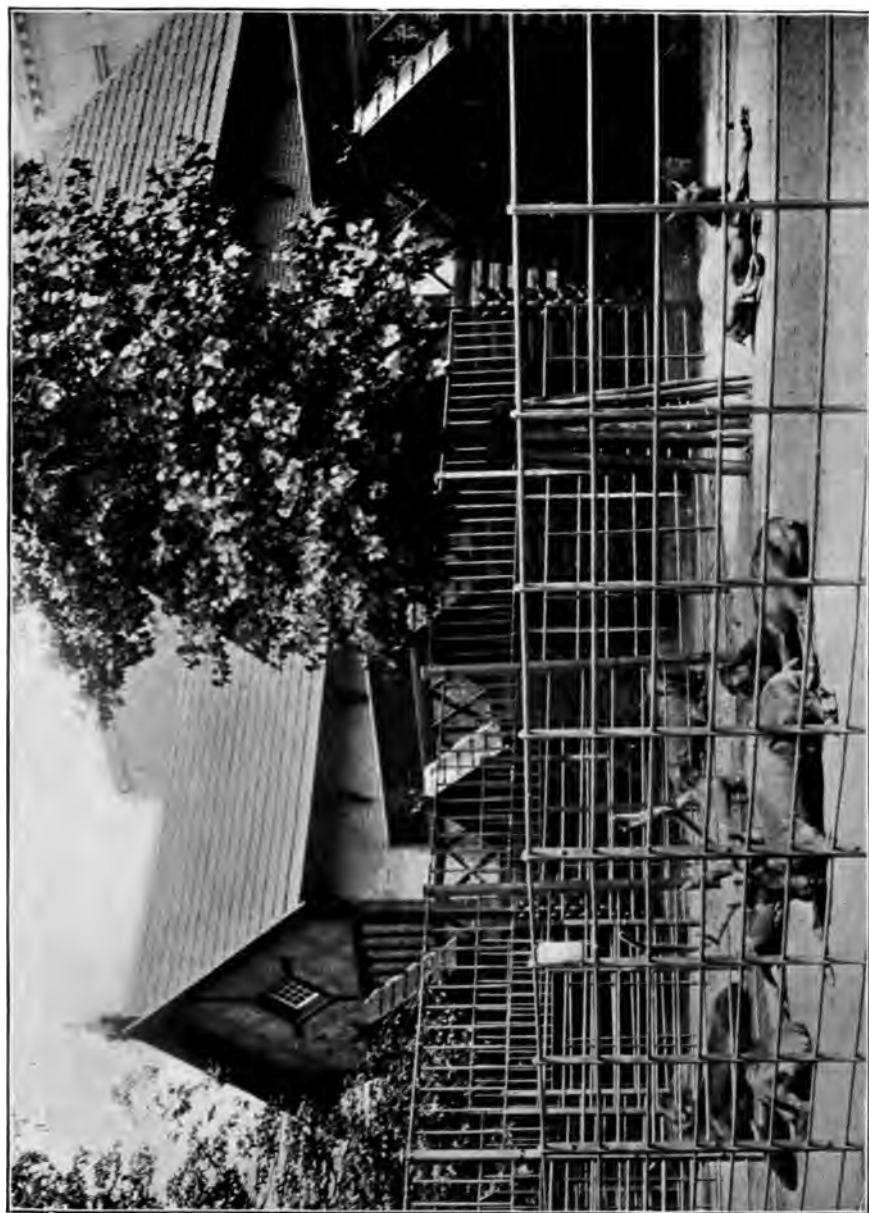
the study or observation of animal life. Although our American zoologists have done much toward popularizing zoology, much more remains to be done. The New York Zoological Society believes that it can serve a good purpose in this community by extending and cultivating in every possible manner the knowledge and love of nature.

#### THE PROPOSED ZOOLOGICAL PARK.

In the matter of the establishment of a great vivarium, or, in other words, a *collection of collections* of such living creatures as it is practicable and desirable to bring together for purposes of exhibition and study, the Society believes it can create an institution which will be a decided advance beyond anything thus far accomplished in that line. After carefully examining the numerous fine zoological gardens now in existence in various parts of the world, it really seems that the wisdom and foresight which in 1884 added 3,800 acres of park lands to the municipal domain, has made it possible for New York City to locate, in a part of this vast area, a zoological park which will enjoy finer and more extensive natural advantages than any similar institution either in this country or abroad.

In a zoological garden of the average size, say 30 acres, close confinement of the animals is a condition impossible to escape. In the great private game preserves of many thousand acres each, of which, happily, there are now numerous fine examples in this country as well as in Europe, the wild creatures are so completely hidden in forests as to be quite lost to the visitor. While these great game preserves do protect from extermination the species they enclose, they are not intended for the instruction of visitors. We believe that *the ideal vivarium is one in which the living creatures can be kept under conditions most closely approximating those with which nature usually surrounds them, in spaces so extensive that with many species the sense of confinement is either lost or greatly diminished, yet at the same time sufficiently limited that the animals are not inaccessible or invisible to the visitor.*

The ideal zoological park, such as this Society has planned to establish, will, therefore, stand midway between the typical



THE ZOOLOGICAL GARDEN, INDIA



30-acre zoological garden of London, Paris, Antwerp or Philadelphia, and the great private game preserve. In the southern portion of Bronx Park we find a wonderful combination of hill and hollow, of high ridge and deep valley, of stream and pond, rolling meadow, rocky ledge and virgin forest of the finest description, all of which, by a happy combination of circumstances, have been preserved through all these years. While other portions of Bronx Park are more rugged, and more wildly picturesque, and while in itself the area chosen for the animal collections has never been regarded as strikingly beautiful, its adaptability to the peculiar wants of animals in captivity is really marvellous. Furthermore, it is believed that the treatment of nature's work which will be desirable in establishing the collections, will only emphasize and enhance the natural attractions of the area in question.

In by far the greater number of zoological gardens or parks, the choicest landscape features have been artificially *created*; here it remains only to skilfully, artistically and sensibly *adapt* the work of nature. The expenditure of a million dollars on any other park area north of the Harlem River would not yield the open hard-wood forest, the areas of heavy timber, the open glades, the sheltered valleys open toward the south-east, the great natural catch-basins for storm water, the splendid rock masses and the thirty acres of still water that await us in the area selected. The Society now has before it a series of preliminary plans locating the various buildings, aviaries, fences and walks as they should be arranged to best accommodate the animals and the public, and these plans do not involve the cutting of a single tree! The only concession proposed in this direction is that the beavers shall be allowed to cut down several small trees that stand in the bog where it is proposed the Beaver Pond shall be located.

#### EXHIBITION OF NORTH AMERICAN TYPES.

As may fairly be expected, the first duty of the Society in the formation of collections, will be to bring together a liberal number of fine examples of the more noteworthy and interesting species of the animals of North America, particularly of those species that



are threatened with extinction. No reasonable effort will be spared to show each species of the larger mammals under conditions of liberal space and surroundings which will at least suggest its natural haunts, which will promote the comfort and longevity of the captives, and render their contemplation by visitors a pleasure. Next to the mammals, birds and reptiles of North America, the fauna of South America will receive attention; but the Society's collections must of necessity include a sufficient number of the living creatures of the Old World to furnish the student and the general public with good examples of the principal orders, families and sub-families of the higher land vertebrates of the world.

It follows that, in the formation of the numerous living collections which will find homes in the Zoological Park, the first to be gathered will be the representatives of the "great game" animals of North America,—the buffalo, elk, moose, mountain sheep, antelope, black-tailed deer, Virginia deer, and caribou, —and also the mountain goat, if it can be induced to survive in this climate. The enclosures planned for these species vary in area from three to twenty acres each. All will be abundantly provided with shade, water and shelter, and such cliff-dwellers as the mountain sheep will be located on rugged masses of natural rock. It is proposed that the buffalo herd shall contain about 25 carefully selected animals, living in a 20-acre range, and be in every way worthy to represent this important species.

Special efforts will be put forth to form good collections of American bears, of our small carnivorous animals,—of which the United States possesses a very extensive series,—and of our native wolves and foxes. The collection and arrangement of American rodents, both burrowing and arboreal, will,—for perhaps the first time,—do justice to the splendid series of forms of this order which are native to our country. It is probable that very few persons, outside the ranks of our own mammalogists, are aware that our country possesses the greatest variety of squirrels and marmots to be found in any one country, and that the most beautiful forms are the ones most seldom seen.



THE ZOOLOGICAL PARK IDEA.  
HERD OF ELK AT SUNRISE. PHOTOGRAPHED FROM LIFE AT ADRIAN.



If half our hopes are realized, the collections of upland game birds, of waders, of swimming birds and birds of prey, will be to every sportsman sources of great interest. The immense flying cage, already designed, will be a revelation to every lover of wild birds. The lion house and the monkey house, already designed, will be the most carefully planned structures of their respective kinds that have yet been produced. Both will contain certain features not hitherto utilized in such buildings, but which it is believed will greatly enhance the attractiveness of their living contents.

In everything thus far planned for the Zoological Park, save only the necessary buildings and aviaries, the idea of preserving the natural beauty and wildness of the spot has not for one moment been lost sight of. Fortunately the best of all fences for zoological park enclosures is the one which comes nearest to being invisible, and therefore is the least harmful to a landscape. The fence selected for the large enclosures (shown in the illustration entitled "The Zoological Park Idea") is so nearly invisible that in a photograph its character is often quite indistinct unless it has first been painted a light color.

#### LABELLING.

The Society believes it to be quite practicable and desirable to devote more thought and effort to the labelling of zoological garden animals than has been done heretofore. The best scientific museums have reduced the labelling of specimens to the basis of historical science, with results that to the inquiring visitor are highly gratifying. In zoological gardens, however, labelling of living animals is almost precisely what it was twenty years ago,—the name of the specimen, the locality, possibly the date and manner of its acquisition, and generally no more. A few of the best European gardens do post a limited number of maps of geographical distribution,—of which those provided in the gardens of the Royal Zoological Society of Antwerp are the most admirable, as well as the most numerous. Of the helpful descriptive labels, so dear to the student of to-day, there are none; and for this reason a wealth of information that might be made available, is lost.

## PUBLICATIONS.

The many questions involved in this subject still remain to be considered. At present the most pressing demand of a literary nature is for a "working" zoological library. The formation of so necessary an adjunct to the Society's work must be undertaken at once, and prosecuted with vigor. The library of the Zoological Society of London, perhaps one of the most complete of its kind in the world, has cost over \$80,000. It is the desire of the New York Zoological Society to possess one quite as good as the best in existence, housed in a fire-proof building which will also serve as the official home of the Society in the Zoological Park.

It may fairly be expected that in due course of time the Society will publish and distribute to its members numerous zoological publications and pictures that will be of general interest and value. In the matter of public lectures, the Society will assuredly do its full duty by the public; but in this, as in all other lines of its work, its usefulness will of necessity depend upon the support it receives from the public.

## ENCOURAGEMENT OF ANIMAL PAINTING.

We propose to encourage and facilitate the production of high-class drawings, paintings and sculptures of wild animals. We deplore the fact that by reason of a general lack of support from American art galleries and the patrons of art, and also in many cases from the lack of good subjects from which to work, the painting of American wild animals, save for purposes of illustration, is to-day almost an unknown branch of art. Although our magnificent series of large game animals is rapidly passing away, the walls of nearly if not quite all the great art galleries of America are absolutely destitute of representations of them, much less of such representations as their size, beauty and importance richly deserve! In a word, we propose to take the initiative in stimulating the production of paintings and sculptures of American wild animals, while there are yet a few animals to serve as models.

It is proposed that the Society's library building shall contain studios and workrooms for zoological artists and students,

where the earnest worker shall have every facility and encouragement that it is possible to afford him. The building should also contain a gallery for the display of animal paintings and sculptures. Already there has been provided in the plan of the lion house a spacious studio, connecting with the series of cages, in which on regular occasions animals may be placed in a large central cage of special construction, and used as models by artists who desire to avail themselves of the privilege.

It is hoped that at a comparatively early date we will be able to inaugurate a series of exhibitions of animal paintings and other products of art as applied to zoological subjects, at which prizes may be given for the best works displayed. But this, like other plans of the Society, must also depend upon the support accorded by the public of New York.

#### THE NEED FOR ZOOLOGICAL PRESERVES.

As the vertebrate fauna of the world decreases, the need for collecting and propagating living animals under protection becomes more imperative. No civilized nation should allow its wild animals to be exterminated without at least making an attempt to preserve living representatives of all species that can be kept alive in confinement.

In this age of firearms, it is indeed necessary to put forth vigorous efforts toward the preservation of wild creatures before it is too late. Throughout the entire continent of North America, nearly every wild quadruped, bird, reptile and fish is marked for destruction. Apparently no species is too large, too small, too worthless or too remote to be sought out and destroyed by gun, trap, net or poison. In the pursuit of our large game animals, no labor is too severe, and no risk is too great to be undergone, provided the destroyer fancies he has something to gain in the chase.

In the presence of a wild creature that can be killed and eaten, or despoiled of something fit for his own use, civilized man immediately becomes a savage, eager to slay. The annual output of shot-guns and sporting rifles is something enormous. Firearms were never so deadly as now, never more numerous, and never before so cheap. No man or boy is too poor to

possess at least one gun. Countless thousands of birds and small quadrupeds are annually slaughtered by boys, for no higher purpose than amusement. A still greater number are killed by sportsmen, "for sport," with the table as a fair excuse for the really conscientious; and throughout the length and breadth of the land, the market-hunters slay and spare not.

Of the mammalia, only the very smallest are safe from the pursuit of the modern furrier, who now regards as his special prey every thing that wears hair. From the vanishing buffalo, fur seal, beaver, otter and mink, the demand for more fur has descended until now the once despised muskrat, skunk and rabbit are eagerly sought for their "fur"; and even the mole can no longer boast of a future that is secure.

Birds that are not available for the table are shot for the sake of their feathers; and the results of the dyeing, the mixing and the general perversion of wings, heads and tails to serve the ends of feminine fashion, are sad to contemplate. Florida, once teeming with bird life, is now so barren of birds that a creature on wing is a rare sight.

In every part of the globe that is inhabited by civilized man, animal life is being destroyed far faster than it multiplies. It is almost an impossibility to devise game laws that can prevent the permanent residents of game districts from killing the animals around them, in season and out of season. Nearly every man who lives in a game country is a hunter and exterminator.

In these days of quick transportation and cheap fares, no animal is so remote or so inaccessible as to be even reasonably safe from attack. Once the grizzly bear satisfied the ambition of the most enterprising hunter. The rock-dwelling mountain goat next tempted the sportsman to feats of endurance in mountaineering. Now, however, the chase of the mountain goat is considered too tame. The silence of the desolate Barren Grounds is broken by the crack of the repeating rifle, and the shaggy musk-ox learns that he, also, is now marked for destruction. Thousands of men slaughter, but only scores preserve. The time is coming when the whole temperate zone, the pasture regions of the tropics, and the greater portion of the arctic

world will be practically destitute of beasts, birds and reptiles. In a comparatively few years there will be no large game existing in a wild state on the continent of North America, save in a few areas of dense forest or impassable tundra.

It has taken nature millions of years to produce the beautiful and wonderful varieties of animals which we are so rapidly exterminating. Unless we can create a sentiment which will check this slaughter, and devise laws for those who do not respect sentiment, the bones of our now common types will soon be as rare as those of the dodo and the great auk ; and man will be practically the sole survivor of a great world of life.

Let us hope that this destruction can be checked by the spread of an intelligent love of nature and its products. And nowhere is it more important to inculcate these ideas than in the cities, which are the centres of the most influential press, periodical and book literature. The destruction of animal life is removing from city dwellers, farther and farther, the possibility of knowing the lower animals through contact with them in the field. To the average city-bred man, woman or young person of this country, our American fauna is merely a vague and indefinite thing. In the grammar schools, high schools and even normal schools of nearly the whole United States, the systematic study of zoology receives increasing attention every year, but still far less than it deserves.

#### THE SOCIETY AND THE PUBLIC.

In behalf of the objects but partially outlined in the foregoing prospectus, the Society asks the support of the community. Beyond all doubt, the objects aimed at will appeal to and directly benefit a greater proportion of the three million inhabitants of this city than will any other enterprise that has been undertaken for the higher education or healthful pleasure of our people since the establishment of Central Park itself. With due appreciation for all of the existing institutions of New York, we believe that such a zoological park as is now projected will become the most popular resort within reach of the inhabitants of this city. There is no class of our population to which it will not appeal.



From those who can understand and appreciate what is proposed without first seeing it wrought out, the Society requests the funds, and the large permanent membership, necessary to carry into effect the undertaking which is being so carefully planned.

The city now stands ready to do its full share—by furnishing the site for the Zoological Park, providing the necessary ground improvements, and maintaining the Park and its collections by means of an annual appropriation.

The Zoological Society requires \$250,000 in cash with which to erect the first of its buildings, aviaries and other enclosures for animals, and to purchase the collections with which to stock them. It requires a membership of at least 3,000 persons, each paying \$10 per year, to provide funds for the Society's publications, library, art prizes, and similar objects. Gifts of books on zoological subjects—especially those on mammals, birds and reptiles,—books of travel and exploration, and files of scientific journals in which zoological subjects have a place, will be received with the grateful thanks of the Society.

If from this time on the plans of the Society can move forward without any serious delay,—and if the fund now desired is subscribed as we have reason to hope it will be,—it is entirely possible that the Zoological Park may be opened to the public some time during 1898.

REPORT OF THE EXECUTIVE COMMITTEE  
TO THE BOARD OF MANAGERS.

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*New York, January 5th, 1896.*

The Chairman of the Executive Committee reports on behalf of the Committee as follows :

During the year of 1896 this Committee has held twenty-one meetings, and has reported to this Board at a meeting called for June 12, 1896, at which no quorum was present.

Sixty-six new members have been elected during the year 1896, although no special effort has been made to increase the membership. Sir William Flower, Prof. Alexander Agassiz, Dr. J. A. Allen, Dr. C. Hart Merriam, of Washington, and Dr. F. L'Hoest, of Antwerp, have been elected Honorary Members of the Society.

Upon the resignation of Dr. Alexander Hadden from this Committee, Col. Thomas H. Barber was elected in his place. Col. Barber resigned on account of absence from the city, and Mr. Madison Grant was elected to fill the vacancy.

We regret to report that, owing to delicate health, Hon. Andrew H. Green, the President of the Society since its inception, has felt obliged to offer his resignation. The resignation has been accepted, and a letter transmitted to Mr. Green signed by all the members of the Executive Committee.

During the spring of 1896 a bulletin was issued, containing the Charter, By-laws, List of Officers, Committees and Members of the Society, and the original application to the city for South Bronx Park.

On June 2d a Scientific Council of ten members was formed as an advisory body upon the scientific affairs of the Society, and especially upon the plans of the park. Upon this body were placed representatives of the principal educational and scientific institutions of this city. Upon April 1st, 1896, after

the most careful inquiry in Washington and elsewhere, the Executive Committee engaged, at a salary of \$5,000 a year, the services of Mr. William T. Hornaday as Director of the proposed Zoological Park. The Director at once began an exhaustive study of the various sites which have been considered by the Society for the location of the park, and this Committee, from his advice and from that of various experts,\* and from its own repeated investigations, unanimously decided that the location offered by South Bronx Park was not only exceptionally well fitted for the purposes of such park, but was practically the only available location.

An application for 261 acres in South Bronx Park was thereupon prepared, and on May 21st, 1896, was presented to the Commissioners of the Sinking Fund, in accordance with the terms of the Society's charter.

The application was referred by the Mayor, as Chairman of the Commissioners of the Sinking Fund, to a special committee, consisting of Messrs. McCook (Chairman), Olcott, and Fitch, with instructions to consider the Society's application and report back to the Commission.

From the facts developed at our first conference with this sub-committee, it became apparent that a memorandum setting forth the proposals and plans of the Society, and formulating a basis for the relations to be established between the city and the Society, was necessary. Accordingly the Committee sent the Director abroad during the summer, to study various foreign zoological gardens. An exhaustive study of such gardens was made, and a large amount of valuable information, photographs, plans, etc., was brought back.

The Executive Committee has appeared before the Sinking Fund Committee twice, and before the Park Board three times, in furtherance of its application, and we take pleasure in reporting that, while the final determination of the application is as yet undecided, there is every reason to expect a favorable

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\*Crotona, Pelham Bay and Van Cortlandt Parks were examined and reported upon by a committee consisting of Mr. Arthur E. Brown, of Philadelphia, Mr. D. G. Elliot, of Chicago, and Dr. Frank Baker, of Washington.

outcome at an early date. The memorandum, including the proposed form of contract with the city, is submitted to the Board of Managers at the present meeting. After securing the approval of the Board, it will again be brought before the Commissioners of the Sinking Fund, with a request for final action upon the part of the city. Accompanying this report the Committee submit :

- (1.) The preliminary plan of the Zoological Park, prepared by the Director. A copy of this plan is given to each member of the Society, and suggestions and criticisms are requested.
- (2.) A relief model of the Park, also prepared by the Director.
- (3.) A memorandum of information upon foreign zoological gardens.
- (4.) A memorandum of our proposed form of contract with the Park Commissioners, which is yet to be ratified by the Board of Managers before it is presented to the city.

In conclusion we recommend that the Executive Committee be empowered to revise the By-Laws of the Society to the extent of embodying the changes hereinafter presented.

Respectfully submitted,

HENRY F. OSBORN, JOHN L. CADWALADER, PHILIP SCHUYLER, ANDREW D. PARKER, MADISON GRANT, CHAS. E. WHITEHEAD. C. GRANT LA FARGE, Secretary,	}	<i>Executive Committee.</i>
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## REPORT ON THE CHARACTER AND AVAILABILITY OF SOUTH BRONX PARK.

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*To the Executive Committee of the*

NEW YORK ZOOLOGICAL SOCIETY.

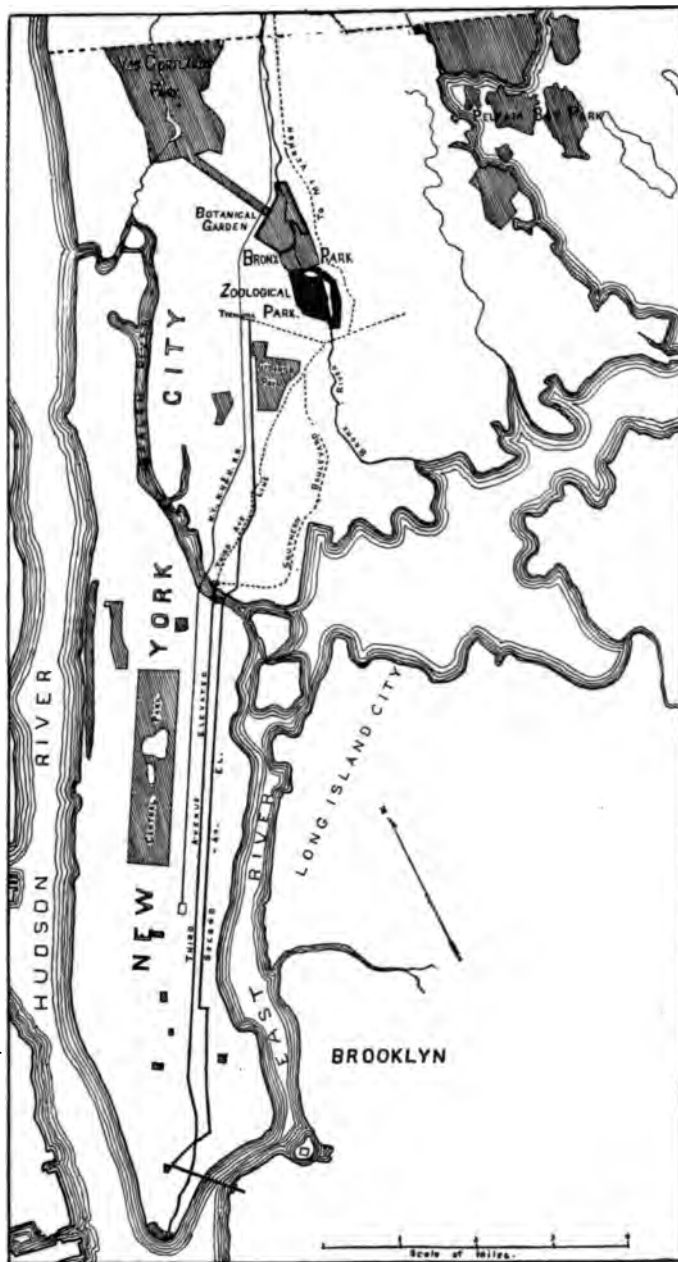
*Gentlemen* :—By the direction of your Chairman, I have spent four weeks in studying the sites available for a zoological park in the park areas of the Annexed District of New York city, north of 155th Street ; and I now have the honor to submit the following report of facts, and my own conclusions based thereon :

As a basis of study, I formulated at the outset the following list of points to be considered in the investigation of each available site, and which I have endeavored to arrange in the order of their importance to a zoological garden.

1. Accessibility.
2. Shade.
3. Surface contour.
4. Natural water supply.
5. Seclusion.
6. Natural building sites.
7. Evenness of temperature.
8. Possibilities for sewerage.
9. Absence of swamp influences.
10. Contiguity to freight railway.

(Here follows a report upon Crotona, Pelham Bay and Van Cortlandt parks).

Two and one-half miles nearer to New York than is Van Cortlandt Park, and five miles nearer than the only desirable portion of Pelham Bay Park, is situated a tract of 261 acres of forest, meadow-land and water, which, for convenience, we will call South Bronx Park. In a word, it may be described



SKETCH MAP OF NEW YORK CITY,  
SHOWING THE LOCATION OF THE PROPOSED ZOOLOGICAL PARK, AND  
PRESENT MEANS OF ACCESS.

as rolling uplands, divided by Bronx River, and characterized by open meadows, open woods, and moderately dense woods, all of the finest character. In order to obtain a full understanding of the character of this site, it is necessary to consider its various points in the same order as adopted for Van Cortlandt.

1. ACCESSIBILITY.—At present South Bronx Park is reached by means of the elevated roads on Second and Third Avenues, to 129th Street, and from thence by two electric surface railways, one via Third Avenue and Boston Road, and the other by way of the Southern Boulevard, to West Farms. There the visitor lands within four blocks of the south-eastern entrance to the Park. The running time from the City Hall to 129th Street is 32 minutes, from that point to West Farms, 30 minutes, and there are two five-cent fares to pay each way.

The extension of the Third Avenue elevated road now terminates at 177th Street, which is 3,700 feet, in a straight line, from the south-west corner of the Park. An extension of this line of 6,800 feet would carry it due north to Pelham Avenue and thence to the main entrance of South Bronx Park, from which visitors to the Zoological Park would need to walk only 900 feet to reach the main group of buildings.

In the event of South Bronx Park being chosen as our site, and occupied, I think two things may be expected with reasonable certainty :—(1), that the Third Avenue elevated road would very promptly be extended 6,800 feet to reach our main entrance at the corner of Pelham Avenue and the Southern Boulevard; and (2), that the cars of the two lines which now stop at the West Farms crossing of the Bronx River, would immediately be run 1,500 feet farther north along the Boston Road, to what would be the southern entrance to the Zoological Park. With these two short extensions, the Park would be accessible, not only to every inhabitant of the entire eastern half of New York and the Annexed District, but to the residents of Brooklyn as well. All people coming from Brooklyn across the bridge, would but need to step from the bridge-train to another train.

My own conclusion in regard to accessibility is that with due allowance for future developments that may be considered fairly probable, Bronx Park will always be more accessible than any other site suitable for a zoological park in New York ever will be, unless it should happen that elevated trains should eventually run up into Van Cortlandt Park without change, over the Putnam Division of the New York Central.

2. SHADE. —For the purposes of a zoological park, I consider the forestry conditions of South Bronx Park to be very nearly perfect. Throughout the north-west quarter of the tract, the timber consists of large and fine old forest trees, chiefly oak, chestnut, beech, tulip, sweet gum, ash and hickory, sufficiently open to permit the growth of a fine carpet of grass under foot, and also for the reception of buildings of moderate size without the necessity of tree-cutting. The accompanying map is intended to show the meadow lands, open woods, and heavy forest.\*

An important consideration in the work before us is the selection of ground which will receive the buildings to be erected without the necessity of cutting trees, and with the farther advantage of having trees to screen the large buildings from distant view. In my opinion, we do not wish a zoological park in which all the large buildings will loom up conspicuously, like the buildings of an exposition, with a park as a mere adjunct; but it would seem as if every reasonable effort should be made to screen and conceal the buildings from distant view, and in every possible way preserve the existing aspect of natural wildness which is conceded to be the highest attainment possible in the development of a park.

It is therefore, in my opinion, to be set down as a great advantage that we find in Bronx Park not only open woods as described above, but also a beautiful open glade, situated on a knoll, and entirely surrounded by old forest trees, wherein the largest of the buildings can be located, around its margin, and be entirely screened from view. If an opening in the forest had been made for this special purpose, I undertake to

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\* See map at end of volume.



say that in all Bronx Park it could not have been better placed for the purpose named.

In addition to the open timber there is an abundance of heavy forest, also, and I doubt if there can be found within fifty miles of New York any more beautifully timbered ridges than those which occupy about two-fifths of the entire area of South Bronx Park. Of the remainder, the open woods constitute about one-fifth; and fine, open grass-covered ridges and hollows make up the remaining two-fifths. There is practically no level land in South Bronx Park save at the bottom of wet basins, of which there are five.

3. SURFACE CONTOUR.—As a whole, therefore, the surface is seen to be very much broken up into ridges and hollows. West of the Bronx River there are three ridges of moderate height that run quite through the Park. As will be seen by the contour map, two terminate rather abruptly against the bend of Bronx River, between the crossings of Boston Road and Pelham Avenue. On the eastern bank of the river another long ridge extends north and south, but as yet its precise topography has not been determined by a survey. The accompanying contour map shows South Bronx Park as far as surveyed, with contour intervals of ten feet; and profile No. 2 shows a cross-section of the tract across its southern half, about on a line with the Rocking Stone.

A very strong point in favor of South Bronx Park lies in the fact that while it is sufficiently broken and diversified by ridges, knolls, small plateaus, hollows and basins to give great beauty to its general aspect, perfect natural drainage, and opportunities for the construction of several fine ponds at trifling expense, the contour is not so uneven as to make it difficult to explore on foot, or to involve any laborious climbing in going over it. In fact, it will be quite possible to so arrange the animal collections that even ladies, small children and elderly people will be able to make a grand circuit of the Park west of the river, see all the animals, both in buildings, yards and ponds, and return to the starting point without encountering any real cause for unusual fatigue. This I regard as one of

the strongest points in favor of South Bronx Park ; and in view of the fact that eventually our Park will, if developed on lines acceptable to the public, be visited annually by hundreds of thousands of visitors, its importance can hardly be overestimated.

4. NATURAL WATER SUPPLY.—Above South Bronx Park, the Bronx River drains a valley about fourteen miles in length, and with an average width of about a mile as far up as Bronxville, where it suddenly widens to two and one-half miles, and receives the waters of several quite large brooks. The great Bronx valley sewer is to have a total length of twenty-one miles, and is particularly designed to receive the sewerage that would otherwise pollute the waters of the river. The question now arises, to what extent will the sewer, when built, intercept the storm water that now flows into the Bronx by a thousand brooks and brooklets, and cause the stream to dry up?

From observations made in the parks of Buffalo, we know that a very satisfactory body of still water can be maintained in a public park without any current whatever flowing through it constantly, and which receives its entire supply from sudden rushes of water during stormy periods. The stream which supplies the lake in Buffalo's northern park is not more than one-sixth as long as the Bronx, does not regularly carry more than one-tenth of its volume of water, and for long periods in the summer is entirely dry. It flows through a section of the city which even now is plentifully supplied with sewers, but during severe storms it becomes a rushing torrent, eight feet in depth.

There is now in the Bronx River, within South Bronx Park, a large body of still water, like an attenuated lake, formed by a dam across the river where it leaves the Park. This is precisely as it should be for the purposes of a zoological park ; for, however beautiful a running river may be, a large body of still water is much more valuable, not only for water fowl, aquatic mammals, and for boating, but also as a feature in the landscape. It is my opinion that there will always be a good flow of storm-water in the Bronx River, and most certainly there will always be sufficient to maintain the highly valuable body of still water now in existence just where it is most needed. Beyond

question, the storm-water of the Bronx will always keep the lake full, even when the proposed sewer is constructed.

In four points of the Park there are deep, natural basins, where very valuable ponds can be constructed at slight expense, which, besides being very useful to the collections, will add very greatly to the beauty of the Park. The exact locality of each is indicated on the map. One seems to be well adapted to the wants of the beaver, being situated in a very secluded spot, and quite surrounded by forest.

5. SECLUSION.—South Bronx Park is sufficiently remote from all steam railways that its quiet is not broken by them. By planting continuous clumps of rapidly growing forest trees, such as the Carolina poplar and soft maple, along the southern and western boundaries, it will be possible to entirely shut from view the rows of dwellings that otherwise will very soon bring the city obtrusively in sight from the southern half of the Park. If this is done at once, the trees will grow up in time to forestall the houses; and it seems to me a matter of much importance.

The seclusion of South Bronx Park is well nigh perfect. Pelham Avenue, its northern boundary, is, and always will be, a much traveled thoroughfare, but the most interesting features of the Park are hidden from it by the trees and hills; and, after all, it is only a boundary.

Boston Road passes through the Park, near the bank of the river; but as a thoroughfare it is not of special importance, and as yet is but little used. In a large zoological park, some carriage drives are very desirable and necessary, and this one can be made to serve the purposes of visitors who wish to see herds of buffalo, elk, deer, and moose without getting out of their carriages. If put in good condition and kept so, it will serve a very useful purpose to the Zoological Park, should it be located there.

6. NATURAL BUILDING SITES.—This subject has already been brought forward, and it is only necessary to say farther that the woods, glades and meadows lend themselves so kindly to our purposes I may venture to predict that all the buildings

necessary to a great zoological park can be acceptably and even beautifully located on this site without the cutting down of a single tree. I am not as yet prepared to say that this is absolutely true, to the letter ; but it seems to be so.

7. **EVENNESS OF TEMPERATURE.**—South Bronx Park is less exposed to the sweep of cold winds, either from land or sea, and therefore less liable to the sudden and violent changes of temperature so hard to cope with in a large menagerie, than any other of the several sites considered. It seems to me this is about the only spot which could be made even reasonably popular with the public in cold weather,—the very season when all our large fur-bearing animals have their finest pelage, and in every way look their best.

8. **ARTIFICIAL DRAINAGE.**—This year will see the beginning of the construction of a great sewer from Hunt's Point up to West Farms, and up the Boston Road to the point where it enters the Park. It is then to be deflected westward by Kingsbridge Road to Southern Boulevard, and thence will continue northward along the Boulevard, thus passing along the entire southern and western fronts of South Bronx Park.

Unfortunately, on the Boulevard the sewer will lie higher than the upper end of the Park, so that the sewerage from the large buildings would need to be carried by a private conduit down to Boston Road, a distance of about 4,000 feet, to the southern entrance of the Park, where it could empty into the trunk sewer. Considerable rock would be encountered in its construction, and it is estimated that it would cost about \$3.75 per foot, or \$15,000.

9. **ABSENCE OF SWAMP INFLUENCES.**—While there are no large swamp areas anywhere in or near Bronx Park, nor anything visible suggestive of malaria,\* it is at least a matter of tradition that the neighborhood of the old Lorillard mansion

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\***SUPPLEMENTARY NOTE.**—While this is true of the natural features of South Bronx Park, it is also true that the north-western portion of that fine tract is now quite spoiled by a large sewer which opens into it about 300 feet from the Southern Boulevard, and sends an open stream

is, or was, malarious. It is difficult to understand why such a condition should exist there, and there is some reason to doubt its existence at the present time.

10. CONTIGUITY TO FREIGHT RAILWAY.—The nearest station on the New York and New Haven Railway is at Pelham, three-fifths of a mile from the north-west corner of South Bronx Park, which makes a short haul, either with materials or live animals.

RECOMMENDATION. —In view of all the foregoing, and from the standpoint of one whose reputation is at stake on the issue, I have neither doubt nor hesitation in recommending South Bronx Park as the spot best adapted to the creation of a truly great and monumental zoological park, by the New York Zoological Society. It is the spot which will lend itself most kindly and pliantly to the end in view. It is the spot where the greatest results can be accomplished with the least money, and in the shortest time. I am sure, in my own mind, it is the spot that, in the end, would yield the greatest amount of pleasure and of actual benefit to the three million inhabitants of greater New York. A zoological park located on that spot, and supported by a reasonable amount of money, can be made the finest institution of the kind in the world, a source of unbounded pride to the metropolis of this continent, and of lasting benefit to the city, the state, and the nation.

Respectfully submitted,

WILLIAM T. HORNADAY,

*Director of the proposed Zoological Park.*

New York, April 29, 1896.

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of sewerage flowing through the Park. The abatement of this dangerous nuisance will undoubtedly be brought about in a very short time, and certainly in advance of the opening of the Zoological Park. W. T. H.

## REPORT UPON A TOUR OF INSPECTION OF THE ZOOLOGICAL GARDENS OF EUROPE.\*

*To the Officers and Members of the*

NEW YORK ZOOLOGICAL SOCIETY.

*Gentlemen:*—In accordance with instructions received from the Executive Committee, I spent the months of July and August in Europe, for the purpose of inspecting and studying in detail the best zoological gardens of England and the Continent. Upon those investigations I now have the honor to submit the following brief report.

The most important objects of the tour were as follows:—

1. To become acquainted with the most recent improvements and developments in the care of animals in captivity ;
2. To study the administrative methods of the best gardens in existence ;
3. To study the general relations existing between incorporated zoological societies and the public, and
4. To learn by actual observation what are the mistakes to be avoided in the creation of a great zoological garden.

My observations and studies embraced fifteen zoological gardens, situated in the following localities:—

In England,	1,	situated at	London ;
In Belgium,	1,	“ “	Antwerp ;
In Holland,	3,	“ “	Rotterdam, The Hague and Amsterdam ;
In Germany,	8,	“ “	Hanover, Hamburg, Berlin, Dresden, Leipsic, Frankfort and Cologne ;
In France,	2,	“ “	Paris.

GENERAL IMPRESSIONS.—Out of the multitude of impressions left upon the mind of the observer after having made this tour, two or three stand forth so prominently as to overshadow all others. The first is—the great number, the size,

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\*Read at the annual meeting of the Society, January 5, 1897.

the magnificence and the immense popularity of the zoological gardens of Western Europe. The next is—the extent and splendid character of the improvements that have been made in those gardens during the last twenty years.

It is quite germane to the subject that the third most prominent impression should also be recorded here, viz:—that, as a body, the American people have as yet no adequate conception of the delights and benefits to be derived from a first-class, well-conducted zoological garden or park.

In the case of each of the cities named, its zoological garden was, beyond all question, the leading attraction to the best element of its population. The zoological societies of Antwerp, Amsterdam and Rotterdam each contain nearly 5,000 members, and they are the absolute owners of the beautiful grounds, the palatial buildings and the rich zoological collections that, taken together, constitute their gardens. The membership rolls of these societies include practically all the people who make up the aristocracies of intelligence, of wealth, and of birth in those three cities. It is considered an honor as well as an advantage to belong to those zoological societies, and a well-to-do resident who will not become a member is not allowed to enter the gardens, even upon the payment of the stranger's fee.

In London the Queen is the Patroness of the Zoological Society, and the Prince of Wales is Vice-Patron. The membership of that Society is over 3,000, and the Society's Gardens are, in the extent and variety of their animal collections, the richest in the world.

In point of size, richness of collections and character of improvements, five of the zoological gardens visited deserve to rank as first class. They are the gardens situated at London, Antwerp, Amsterdam, Hamburg and Berlin. The London garden is the richest in animal life, its separate collections being sixty in number. The Berlin and Amsterdam Gardens also are rich in collections. The gardens of the Royal Zoological Society of Antwerp have very fine and attractive buildings, the most of which are truly palatial in character. The most costly animal building in Europe is the magnificent Elephant House at Berlin, which represents an outlay of \$120,000.

GRANTS OF LAND TO ZOOLOGICAL SOCIETIES.—Of the fourteen public zoological gardens that were visited, all save two were under the management and control of incorporated zoological societies. The Jardin des Plantes, of Paris, is a national institution.

Of this number, eight gardens were located upon lands which had been set apart for them in public parks, without the exaction of any concessions whatever as to free privileges for the public, save in the case of the national institution mentioned above. The six zoological societies which have thus been supplied by their respective cities with grounds for their gardens, free of rental so long as the gardens are suitably maintained, are located in the following cities: London, Hanover, Hamburg, Berlin, Dresden and Paris (Jardin d'Acclimation).

As a matter of form, the Zoological Society of London does pay to the Office of Woods a trifling sum as annual rental, too small to be worthy of mention, save for the sake of strict accuracy.

At Leipsic, the Zoological Garden now being developed is located on land sequestered from the finest and most accessible portion of a public park, and turned over to a *single private individual*, who has established the garden, and to which an admission fee is always charged. The municipality of Leipsic evidently considers the public benefits of a zoological garden sufficient to justify the allotment for that purpose of valuable land in a public park to a private individual.

MAINTENANCE OF EUROPEAN GARDENS.—With the exception of the Menagerie of the Jardin des Plantes, which is the oldest institution of the kind now in existence, all the zoological gardens of Europe have been established by funds either contributed by members, or realized in the payment of annual dues, or by the issue and sale of shares. They are maintained from year to year by funds drawn from the following sources:—

1. Gate receipts, for admission to the gardens;
2. The fees and annual dues of members of the controlling society;
3. The lease or operation of valuable franchises in the grounds;
4. The sale of valuable animals bred in the gardens.



Of these various sources of income, the first is usually greater than all the others combined. None of the gardens of Europe, save the Jardin des Plantes, are ever opened to the free admission of the public, even on one day in each year. The only concession granted to the public is a reduction of the regular admission fee on certain days, usually holidays only, but in London this rule applies to Saturdays, also.

In Europe, where labor costs less than in America, it is possible to maintain a zoological garden for a smaller annual charge than would be possible here; but, for all that, it will invariably be found that the cleanest and most beautiful gardens have the greatest number of employees, and the largest and grandest gardens are those which cost the most money for annual maintenance. The following figures show the annual cost for maintenance of the institutions named :—

Garden at Berlin . . . . .	\$137,500
“ “ Antwerp . . . . .	136,800
“ “ Amsterdam . . . . .	105,000
“ “ London . . . . .	100,000
“ “ Cologne . . . . .	79,800
“ “ Rotterdam . . . . .	65,940
“ “ Philadelphia . . . . .	50,000
“ “ Hanover . . . . .	42,000
Park at Washington, D. C . . . . .	50,000
Jardin des Plantes, Paris . . . . .	20,000

In every garden on the Continent of Europe, the patronage of the great restaurant and concert hall creates a privilege of considerable value to the society owning it. In Berlin, the lease of the restaurant yields the society \$10,000 a year, and hereafter the price is to be \$15,000 per annum. This, of course, implies an amount of restaurant patronage quite unknown in American places of recreation of an educational character. Until public eating and drinking in great crowds becomes a popular form of amusement, and one on which our people can and will spend money lavishly, American zoological gardens must look for maintenance to other sources than from an extremely large and convivial membership.

RESULT OF THE SYSTEM OF CLOSED GARDENS IN EUROPE.  
—As might naturally be expected as the result of having no

free days in the European gardens, the benefits of the gardens are really luxuries for the wealthy and prosperous classes. The really poor people have open parks in abundance, and enjoy them to the fullest extent ; but the admission fee necessary to an enjoyment of the study of animals in the zoological gardens, is, to tens of thousands, an insurmountable barrier to pleasures of that nature. In Paris, the people of the poorer classes—as well as all others—throng the menagerie of the Jardin des Plantes in crowds that are too great for the best interests of the institution. With the highest and strongest barriers to be found in any European garden, Professor Milne-Edwards, the Director, declares they are not yet high enough and strong enough to fully protect the animals from the crowds which visit them daily. It is his advice that the proposed New York Zoological Park should be open to free admission only two days of each week, instead of a greater number.

FEATURES POSSESSED BY ALL EUROPEAN GARDENS.—The following features were found in every zoological garden visited, with the exceptions to be noted :—

A large restaurant and concert hall, and usually a small and cheap restaurant, also.

Music, to attract great crowds.

Flowers and plants in profusion.

Abundant shade, both for the animals and visitors.

Direct and cheap transportation.

The privilege of exchanging or selling duplicate specimens, and of producing revenue in all legitimate ways.

The merit system respecting the selection and pay of employees.

Immunity from political interference.

The active interest and annual financial support of either several hundred or several thousand first-class citizens.

The sympathy and moral support of the community surrounding each garden.

The only exceptions to be noted are the absence of a concert hall in the London garden, and of both that and the restaurant feature at the Jardin des Plantes.

AREA OF EUROPEAN GARDENS.—Without exception, the area of every European zoological garden is decidedly circumscribed. The Berlin Garden, which is the largest of all, contains 60 acres. Next comes the Paris Jardin d'Acclimation, with 50 acres; Rotterdam follows, with 37; Hamburg, 35; London and the Jardin des Plantes with 30 each; Amsterdam, 25; Cologne,  $22\frac{1}{2}$ ; Leipsic, 20, and so on down. Many of the gardens are overcrowded with buildings and yards, and attempts to suggest the natural haunts of the creatures exhibited are necessarily few and far between. The larger carnivora, the elephants and rhinoceroses, the tropical antelopes, the monkeys, and the tropical birds are generally found in large and costly buildings, some of which are of elaborate architectural design. It is quite a common idea to strive to provide oriental buildings for oriental animals, but to my mind the result is not always satisfactory. It is my opinion that conformity to a uniform style of architecture is much more desirable than a succession of startling contrasts.

In European gardens, the large game animals, such as the various species of deer, elk, bison, buffaloes, etc., are kept in small pens, because ample park space is not available. Living trees are never utilized as homes for arboreal mammals. Ledges of natural rock are entirely absent, but hills of artificial rock, and small masses of stone, are quite common. With the exception of the great flying cages at London, Rotterdam and Paris, the homes provided for birds are always of the most conventional and artificial character,—but it will be difficult to improve upon them. The large flying cages, however, are so very large, and contain so much of nature in the form of living trees, shrubs, plants and water, that the large birds living within them seem as much at home as if they were really in a state of nature, in a leafy wilderness.

For a complete pictorial exposition of the contents of the gardens recently inspected by your representative, reference is made to the mounted collection of nearly 300 photographic views, submitted herewith, many of which were taken expressly for the use of this Society.

It is not possible within the limits of this brief report to enter into the multitude of questions and details covered by the studies and investigations recently made in Europe. The exact facts, figures and details gathered from directors, inspectors, keepers and others are mostly matters of permanent record, carefully arranged and indexed for future reference and actual use. In addition to the photographs taken, 135 sketches and plans were drawn, and much valuable literature was secured.

**ABSOLUTE REQUIREMENTS IN AN IDEAL ZOOLOGICAL GARDEN.**—In conclusion, it is perhaps desirable to summarize the features that the European public absolutely requires in a zoological garden. Stated categorically, in the order of their importance, they are about as follows :—

1. A location as near as possible to the centre of population.
2. Ground that can be walked over without great exertion.
3. The right quantity and quality of shade, both for visitors and for the animals.
4. A fine series of collections of quadrupeds, birds and reptiles, in a good state of health.
5. Buildings, enclosures and ponds that are thoroughly commodious and comfortable for the animals, and pleasing to the eye of the visitor.
6. Absolute cleanliness of collections and grounds.
7. A full and correct system of labelling.
8. An ample system of walks, and provisions for public comfort.
9. A complete system of protection for the animals, and for visitors.

I regret to say that I failed to find anywhere any special facilities for artists, although most societies issue permits to sketch and paint the animals in their gardens.

**ACKNOWLEDGMENTS.**—Without a single exception, the officials of all the gardens visited were exceedingly courteous and helpful in the investigations undertaken. In not a single instance was information refused, and many directors and superintendents devoted hours of valuable time to the inquiries of your investigator. For such courtesies, the New York

Zoological Society is under particular obligations to Dr. P. L. Slater, Secretary, and Mr. Clarence Bartlett, Asst. Superintendent, of the Zoological Society of London; Mons. F. L'hoest, Director of the Royal Zoological Society of Antwerp, and Mons. J. De Winter, now Director of the Cairo Zoological Gardens; to Dr. A. Von Bemmelin, Director of the Rotterdam Gardens of Zoology and Botany; to Inspector Johannes Castens of Amsterdam; to Herr Carl Hagenbeck, of Hamburg; Dr. L. Heck, of Berlin; Dr. Ernest Schäff, of Hanover; Dr. L. Wunderlich, of Cologne, and Prof. A. Milne-Edwards of the Paris Jardin des Plantes. All these gentlemen did everything in their power to facilitate the investigations and render valuable co-operation in the work to be done by this Society. Director L'hoest, of the beautiful Antwerp Garden, even offers to receive any keepers we may choose to send to him for the benefit of two or three months' experience and training in that institution.

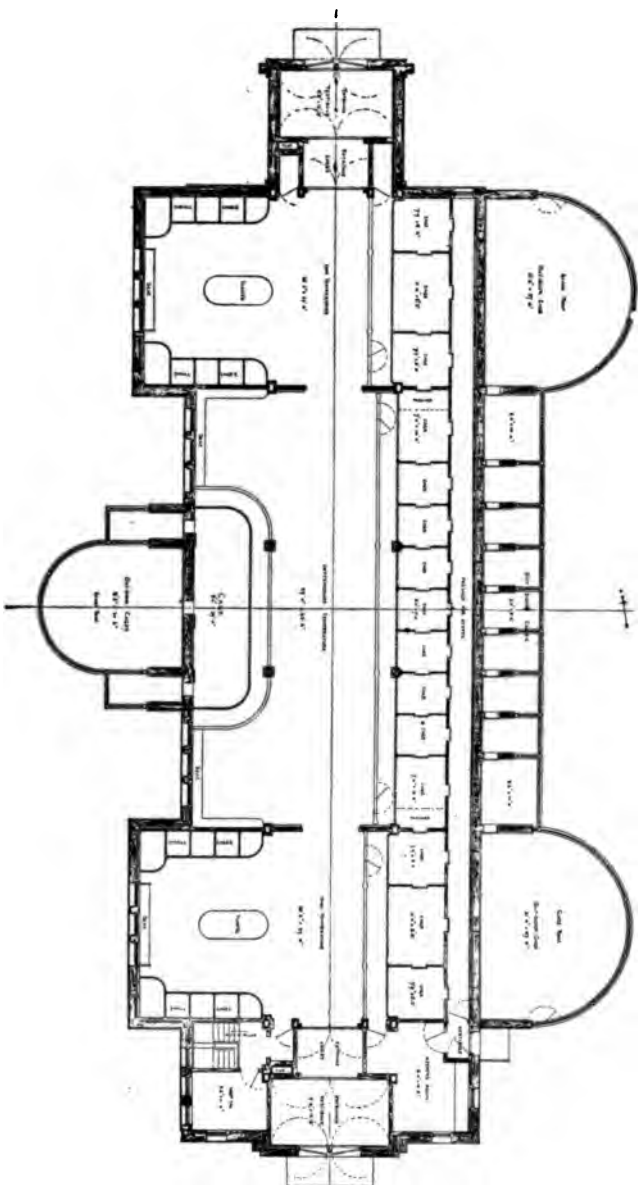
I may add, as a final deduction from the gardens seen abroad, the conviction that no institution presents a greater number of problems to be solved, and no institution affords a finer field for criticism than the creation and management of a large zoological garden. I believe, however, that with such a site as South Bronx Park, and with the information this Society now possesses, the danger of mistakes will be reduced to a minimum, and the chances of gratifying success increased to the maximum.

No one of the gardens recently visited occupies ground which can for one moment be compared, either in physical character or in extent, with the matchless site that has been chosen by this Society for the Zoological Park of America. When it was described to the directors of the best European gardens, even in guarded and conservative terms, their surprise and envy were both open and unbounded. And more than one exclaimed: "With such ground, and the money that New York will give you, you can do anything that you choose!"

Respectfully submitted,

WILLIAM T. HORNADAY,

*Director.*



GROUND PLAN OF THE PROPOSED MONKEY HOUSE FOR THE ZOOLOGICAL PARK.

ATLANTIC TRUST COMPANY,  
39 WILLIAM ST.,  
NEW YORK, Jan. 4, 1897.

*To the Board of Managers,*

NEW YORK ZOOLOGICAL SOCIETY.

*Gentlemen* :—Herewith I exhibit to you a statement of the receipts and payments of the Society during the period of my treasurership, that is, from June 1, 1895, to date.

By authority of the Executive Committee, the sum of \$275 was placed at the official credit of the Director, with which to meet the very numerous petty cash expenditures incident to the conduct of the Society's affairs, and a further sum of \$500, to cover the Society's portion of the cost of the Director's visit to Europe to inspect zoological gardens. Both these sums have been properly accounted for by a full set of vouchers, and the Director's accounts have been duly audited under the direction of the Executive Committee. All the various items of these expenditures have been included in my statement under their proper headings.

Very respectfully,

L. V. F. RANDOLPH,  
*Treasurer New York Zoological Society.*

# TREASURER'S STATEMENT.

June 1, 1895, to January 4, 1897.

RECEIPTS.		EXPENDITURES.	
Life membership fees, twenty-four per- sons . . . . .	\$ 4,800 00	Stationery, blank books and office sup- plies . . . . .	\$ 155 93
Annual dues from 102 members . . . .	1,020 00	Office furniture . . . . .	27 76
Annual dues paid in advance by Alex- ander Hadden . . . . .	100 00	Office rent . . . . .	210 43
Annual dues paid in advance by J. P. Morgan, Jr . . . . .	100 00	Materials for maps and plans . . . .	53 62
Interest on deposits, Atlantic Trust Co.	40 80	Printed matter for distribution . . .	140 75
		Inspection of European zoological gar- dens . . . . .	410 07
		Postage, telegrams, etc . . . . .	26 23
		Salary of Director . . . . .	3,749 94
		Clerical and other services . . . . .	575 17
		Refund of dues overpaid by error . .	20 00
		Cash balance in Treasury, Atlantic Trust Co . . . . .	5,369 90
	\$ 6,060 80		690 90
			\$ 6,060 80

Atlantic Trust Company, 39 William St.,  
Jan. 4, 1897.

Respectfully submitted,  
L. V. F. RANDOLPH, Treasurer.



APPLICATION TO THE COMMISSIONERS OF THE  
SINKING FUND, CITY OF NEW YORK, FOR  
AN ALLOTMENT OF LAND TO BE USED  
AS A PUBLIC ZOOLOGICAL  
GARDEN.

Presented by the President and Executive Committee of the New York  
Zoological Society, May 21st, 1896.

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NEW YORK ZOOLOGICAL SOCIETY,  
69 WALL STREET.

NEW YORK, May 21st, 1896.

*To the Honorable Commissioners of the Sinking Fund, City of  
New York.*

GENTLEMEN :—The Executive Committee of the New York Zoological Society has the honor to inform you that a corporate body has been formed under the above designation (Laws of New York for 1895, chapter 435) for the purposes (1) of establishing and maintaining in this city a zoological park, (2) for the preservation of the North American native animals, and (3) the encouragement and advancement of zoology.

In the furtherance of the Society's principal object—viz., the establishment of the zoological garden or park—it is necessary to acquire the use of a suitable area in one of the unoccupied and unimproved parks of this city, north of the Harlem River. If the allotment of a satisfactory site can be obtained, the Zoological Society will immediately thereafter prepare a general plan and seek to obtain the funds necessary to initiate the scheme of improvements that may be agreed upon.

By the terms of the act of incorporation of this Society, the Commissioners of the Sinking Fund are empowered in the following language to make to the New York Zoological Society an allotment of land :

SECTION 7. "The Commissioners of the Sinking Fund of the said city are authorized in their discretion, to allot, set apart, and appropriate for the use of said corporation any of the land belonging to said city north of One Hundred and Fifty-fifth Street, but not in the Central Park, and such appropriation may be revoked if after the expiration of five years from the passage of the act a zoological garden is not established thereon ; said grounds thus set apart and appropriated shall be used for no purpose whatsoever except those aforesaid. As soon as any lands are set apart, the Mayor of said city of New York and the President of the Department of Parks of said city shall become and be ex-officio members of the Board of Managers of said corporation."

*Free Admission.*—The law requires the free admission of the public on four days in each week, one of which shall be Sunday. It is the present intention of the Executive Committee to recommend that the Zoological Park shall be open to free admission for *six* days in each week, and that one day only shall be set apart for the benefit of members of the Society, students and artists, and for repairs. The field exhibits, the river, and the woods will be open to the public at all times.

During the past five months the officers of the Zoological Society have made a thorough and exhaustive study of all the unoccupied and unimproved parks north of the Harlem River, in order to determine what location would be best adapted to the requirements of a Zoological Park founded on an ample scale, and would also meet the requirements of the public in regard to accessibility. In these investigations the Society has availed itself of the advice of the best zoological garden experts in the country.\* As the result of all studies and investigations, this committee has now reached the unanimous conclusion that in all the various parks north of the Harlem River

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\* The following gentlemen have served in this capacity : Mr. Arthur E. Brown, Superintendent Philadelphia Zoological Gardens ; Dr. Frank Baker, Superintendent of the Washington Zoological Park ; Prof. D. G. Elliot, Curator of Zoology, Field Museum, Chicago ; and Mr. William T. Hornaday, Director for the New York Zoological Park.

there is one location which may be regarded as a truly ideal site for a Zoological Park, such as this city should have, and such as this Society desires to establish.

We therefore apply to you to allot, set apart, and appropriate to the New York Zoological Society, according to law, all that portion of Bronx Park which lies south of Pelham Avenue, of about 261 acres in extent, to be used by this organization only under the terms of its charter, as a public Zoological Park, and to be laid out for improvement and use upon a general plan which shall be approved by the Board of Park Commissioners before any actual work is begun.

One important reason for our choice of South Bronx Park is that it contains several open areas in which all the large buildings could be erected without the cutting of any trees or shrubs whatever. The Society desires to place itself on record as being opposed to the cutting of living trees or shrubbery in a public park, and to all plans involving any defacement or diminution of natural beauties. South Bronx Park is now asked for because it is eminently the place wherein a semblance of the natural haunts of wild animals can be secured by the adaptation of Nature's handiwork rather than by the slow, costly, and not always satisfactory processes of artificial creation. It is also asked for because it is possible to develop upon it a Zoological Park of the most spacious and attractive character.

At present the area in question is merely a tract of rough, unimproved land, part meadow and partly timbered, through which flows the Bronx River. Other parks in the Annexed District possess greater landscape possibilities, but the site chosen is particularly well adapted for the purposes of a Zoological Garden founded on a large scale. It is, or soon will be, easily accessible to the people of New York and Brooklyn by payment of a single five-cent fare; its water supply is the best to be found in any of the northern parks; its contour is not so precipitous or so rough as to destroy its full availability to visitors on foot; its natural drainage is perfect; its shade is abundant and of the peculiar open kind so extremely desirable in a zoological park. It possesses four natural basins, in which

ponds of great value to the collections, as well as to landscape effects, can easily be constructed. Its situation, contour, and forestry all combine to give this spot an evenness of temperature not possessed by any other site of those available. South Bronx Park can be made a great popular resort for the people, wherein the benefits of zoological study can be more happily combined with the enjoyment of natural forest, field, and stream than could possibly be provided elsewhere.

#### PARTIAL LIST OF ZOOLOGICAL GARDENS IN OTHER CITIES.

##### IN AMERICA.

Philadelphia . . .	Area	33 Acres,	maintained by a zoological society.
Washington . . .	"	168 "	" by the government.
Cincinnati . . .	"	36 "	" by a zoological society.
Chicago . . . . .	In a public park,	"	by the municipality.
St. Louis . . . . .	"	"	by the municipality.
Pittsburg . . . . .	"	"	by the municipality.
Buffalo . . . . .	"	"	by the municipality.
San Francisco . . .	"	"	by the municipality.

##### IN EUROPE.

London . . . . .	Area	30 ½ Acres,	maintained by a zoological society.
Dublin . . . . .	"	"	by a zoological society.
Bristol . . . . .	"	15 "	by a zoological society.
Paris . . . . .	"	"	by the government.
Paris . . . . .	"	50 "	by the Société d'Acclimation.
Amsterdam . . . .	"	25 "	by a zoological society.
Rotterdam . . . .	"	37 "	by a zoological society.
The Hague . . . .	"	20 "	by a zoological society.
Antwerp . . . . .	"	25 "	by a zoological society.
Berlin . . . . .	"	60 "	by a zoological society.
Hamburg . . . . .	"	35 "	by a zoological society.
Cologne . . . . .	"	22 ½ "	by a zoological society.
Dresden . . . . .	"	"	by a zoological society.
Hanover . . . . .	"	"	by a zoological society.
Frankfort . . . .	"	25 "	by a zoological society.
Breslau . . . . .	"	"	by a zoological society.
Vienna . . . . .	"	30 "	by a zoological society.
St. Petersburg . .	"	"	by a zoological society.

## IN THE EAST INDIES.

Bombay . . . .	In a public park, . . . .	maintained by the government.
Madras. . . . .	" . . . . .	" by the government.
Singapore . . . .	In the botanic gardens, . . . .	" by the government.
Hong Kong . . . .	" . . . .	" by the government.

Most of the large cities of Europe maintain zoological gardens, many of which are magnificent in appointments and rich in collections; but all, without exception, are confined to small areas, and some are grievously cramped for room. It is not sought to establish a mere menagerie, even on a large scale. A Zoological Park in which the larger and more important native animals have free range in large enclosures, where a satisfactory attempt can be made to copy or suggest natural haunts, and where visitors can find enjoyment in the contemplation of fine, healthy animals, amid beautiful natural surroundings, is quite different from even the best fifty-acre menagerie. In obtaining a grant of land, the Zoological Society deems it both expedient and necessary to secure an area large enough that a portion of it can be held in reserve, as breeding grounds for large species, to meet the demands of the future.

In conclusion, we beg to recur with emphasis to the very important fact that in no sense whatever is the land now applied for to be sequestered from the public.

Very respectfully submitted,

NEW YORK ZOOLOGICAL SOCIETY.

(Signed) ANDREW H. GREEN, President.

(Signed) MADISON GRANT, Rec. Secretary

(Signed) HENRY F. OSBORN, Chairman, }

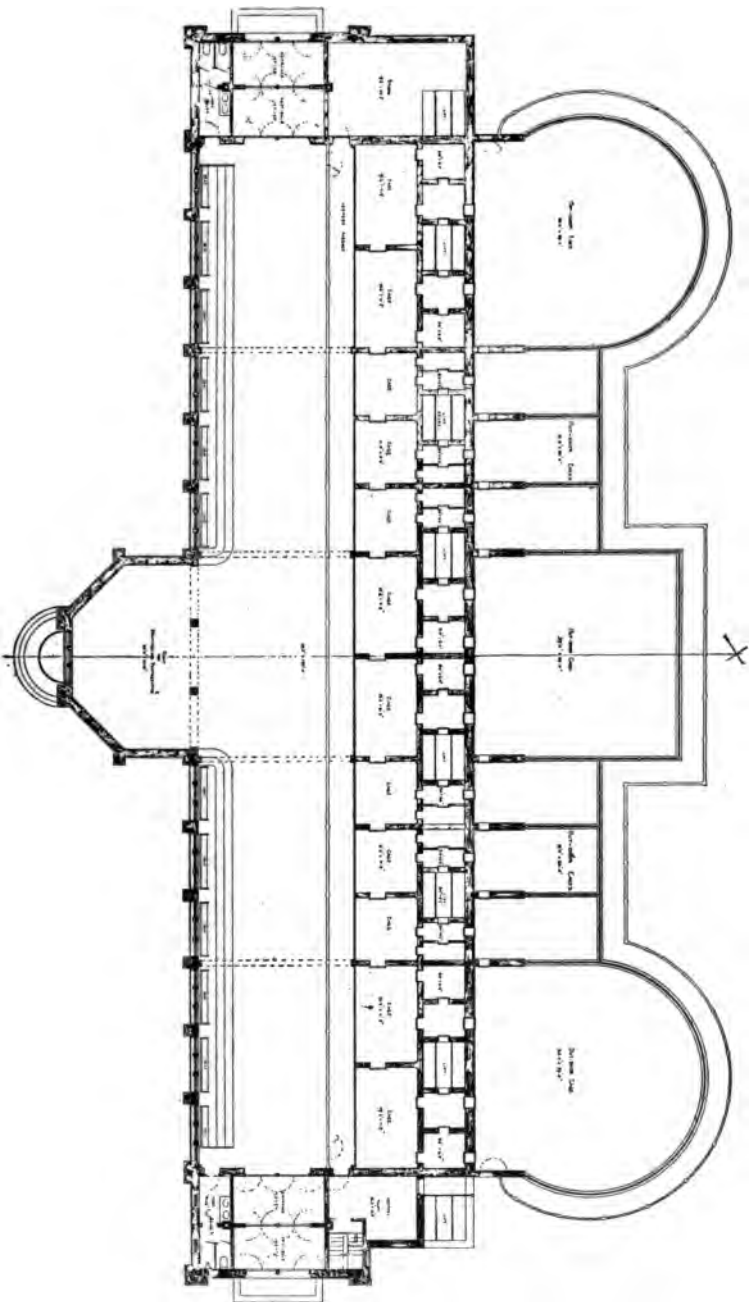
(Signed) JOHN L. CADWALADER, }

(Signed) PHILIP SCHUYLER, }

(Signed) CHARLES E. WHITEHEAD, }

(Signed) ANDREW D. PARKER, }

*Executive  
Committee.*



GROUND PLAN OF THE PROPOSED LION HOUSE FOR THE ZOOLOGICAL PARK.

# CHARTER

OF THE

## New York Zoological Society.

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### CHAPTER 435.

AN ACT to incorporate the New York Zoological Society and to provide for the establishment of a zoological garden in the city of New York.

Accepted by the city. Became a law April 20th, 1895, with the approval of the Governor. Passed, three-fifths being present.

*The People of the State of New York, represented in Senate and Assembly, do enact as follows:*

SECTION 1. Charles A. Dana, Oswald Ottendorfer, Andrew H. Green, William H. Webb, Henry H. Cook, Samuel D. Babcock, Charles R. Miller, George G. Haven, J. Hampden Robb, Frederic W. De Voe, J. Seaver Page, Rush C. Hawkins, David James King, Wager Swayne, Charles A. Peabody, Jr., Charles E. Whitehead, Charles R. Flint, Samuel Parsons, Jr., Mornay Williams, Henry E. Gregory, Isaac W. Maclay, Isaac Rosenwald, Hugh N. Camp, Andrew D. Parker, Cornelius Van Cott, William F. Havemeyer, Frederick Shonnard, William W. Thompson, Alexander Hadden, Edward L. Owen, John H. Starin, Rush S. Huidekoper, William W. Goodrich, Albert H. Gallatin, Frederick S. Church, Edward C. Spitzka, Robert L. Niles, Madison Grant, C. Grant La Farge, William Van Valkenburg, and such other persons as may, under the provisions of its by-laws, become members of the corporation hereby created, are hereby created a body corporate and politic, by and under the name of the New York Zoological Society.

SEC. 2. Said corporation shall have power to establish and maintain in said city a zoological garden for the purpose of encouraging and advancing the study of zoology, original researches in the same and kindred subjects, and of furnishing instruction and recreation to the people, and may purchase and hold animals, plants, and specimens appropriate to the objects for which said corporation is created.

SEC. 3. The managers of said corporation shall have power to make and adopt by-laws for the management and government of its affairs and business, for the admission, suspension, and expulsion of its members, and for the terms and conditions of membership; to prescribe the

number and mode of election of its officers; to define their duties; to provide for the safe-keeping of its property, and from time to time to alter and modify its by-laws.

SEC. 4. The affairs and business of said corporation shall be managed and controlled by a board of managers, the number of whom shall be prescribed by the by-laws. The first board of managers shall be divided by lot into three classes, equal in number, one of which classes shall hold office for one year, another for two years, and the other for three years; and all persons elected to be managers at any subsequent election shall hold office for three years, and until others are elected in their stead. There shall be a president, two vice-presidents, treasurer and secretary, to be elected by the board of managers annually, who shall hold office until others are elected in their stead. The first meeting under this act may be held at any time upon a notice of five days, signed by any five of the incorporators named in the first section of this act, fixing a time and place for such meeting, a copy whereof shall be mailed to each of said incorporators at his usual post-office address, and twelve of such incorporators shall be a quorum for the purpose of organization, adoption of by-laws, and election of officers. No manager of said corporation shall receive any compensation for his services, nor be interested, directly or indirectly, in any contract concerning its property or affairs.

SEC. 5. Said corporation may raise money by the issue of its bonds, secured by a mortgage on any or all of its property not acquired from said city or state.

SEC. 6. Said corporation may take, purchase, and hold real and personal estate necessary for the purpose of its incorporation, the net annual income of which shall not exceed fifty thousand dollars, and shall possess the general powers and be subject to the restrictions and liabilities prescribed in the third title of the eighteenth chapter of the first part of the revised statutes.

SEC. 7. The commissioners of the sinking fund of the said city are authorized in their discretion to allot, set apart, and appropriate, for the use of said corporation, any of the lands belonging to said city north of One Hundred and Fifty-fifth street, but not in the Central Park, and such appropriation may be revoked if, after the expiration of five years from the passage of the act, a zoological garden is not established thereon; said grounds thus set apart and appropriated shall be used for no purpose whatsoever except those aforesaid. As soon as any lands are set apart the Mayor of the said city of New York, and the President of the Department of Parks of said city, shall become and be ex-officio members of the board of managers of said corporation. If at any time the animals now composing the menagerie at Central Park shall be removed therefrom by the authorities having charge thereof, said authorities may make an



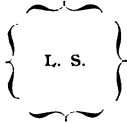
arrangement with the incorporators named in this act or the corporation formed by them for leasing or sale of such animals to such incorporators or corporation, and said incorporators or corporation shall have a preference over any other person or corporation in respect thereto upon the same terms which said authorities could make with any such other person or corporation, or upon such other terms as to such authorities may seem proper, but nothing herein provided shall be construed as giving the commissioners of the Department of Public Parks authority to sell, lease, transfer, or in any otherwise dispose of said animals or other property connected with or belonging to said menagerie.

SEC. 8. Admission to the said garden shall be free to the public for at least four days, one of which shall be Sunday, in each week, subject to such rules and regulations as shall be prescribed by said corporation.

SEC. 9. This act shall take effect immediately.

STATE OF NEW YORK, } ss:  
OFFICE OF THE SECRETARY OF STATE, }

I have compared the preceding with the original law on file in this office, and do hereby certify that the same is a correct transcript therefrom, and of the whole of said original law.



Given under my hand and the seal of office of the Secretary of State, at the city of Albany, this third day of May, in the year one thousand eight hundred and ninety-five.

ANDREW DAVIDSON,  
*Deputy Secretary of State.*

BY-LAWS  
OF THE  
**New York Zoological Society.**

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ARTICLE I.

BOARD, OFFICE AND PLACE OF BUSINESS.

SECTION 1. There shall be a Board of Managers, to consist of thirty-six members.

SEC. 2. The office and place of business of the New York Zoological Society shall be in the City of New York, where all meetings shall be held unless otherwise ordered.

ARTICLE II.

MEETINGS.

SECTION 1. The regular meetings of the Board of Managers shall be held on the second Tuesday in the months of January, April and November. The annual meeting of the members of the corporation, and for such business as shall come before it, shall be held on the first Tuesday of January, or on such other day as may be fixed by the Managers, notice of the hour and place of which shall be fixed by the Managers and published in one daily newspaper in the City of New York. Any Manager who shall fail to attend three consecutive regular meetings of the Board shall cease to be a Manager, unless excused by vote of the Board.

SEC. 2. Other meetings of the Managers or members of the corporation may be held upon the call of the President or upon the written request of five Managers. At meetings of the Managers a majority, and at meetings of the corporation the members present, not less than twelve, shall constitute a quorum for the transaction of business. Notices of meetings of Managers shall be sent to each Manager at least twenty-four hours before the time of meeting.

ARTICLE III.

OFFICERS.

SECTION 1. The officers of the corporation shall be a President, two Vice-Presidents, a Treasurer, a Corresponding Secretary and a Recording Secretary, all of whom, except the Secretary, shall be Managers, and shall be elected at the first meeting of the Board of Managers, and thereafter annually at the meetings of the Managers on the second Tuesday of January.

The President, Vice-Presidents and Treasurer shall hold office for one year, and until others are elected in their stead.

The Managers may fill any vacancy in the Officers or Managers until next day of election.

The Secretaries shall hold office during the pleasure of the Board.

In case of failure to elect on said day, the election may be made on any day appointed by the Managers.

SEC. 2. The President shall preside at all meetings of the Managers and of the corporation; he shall appoint all except the standing committees, and be ex-officio a member of all committees except where otherwise expressly relieved from such service, and have a general supervision of the affairs of the corporation.

SEC. 3. In the absence of the President, a Vice-President shall perform the duties and possess the powers of the President. In the absence of both President and Vice-Presidents a chairman pro tempore shall be chosen.

SEC. 4. The Treasurer shall receive, collect and hold, subject to the order of the Board of Managers, all dues, moneys, securities and other property of the corporation; pay all bills when approved by the Managers or the Executive Committee; and shall render a report of its finances at each meeting of the Board of Managers, and an annual report at the annual meeting of the corporation. He shall keep all moneys of the Society deposited in some bank or trust company to be approved by the Board of Managers.

SEC. 5. The Recording Secretary shall keep the records of the corporation, Board of Managers, and of committees, issue notices of meetings, and, when directed by the Board, affix the seal of the corporation to deeds and other documents.

SEC. 6. The Corresponding Secretary shall conduct the correspondence of the corporation, subject to the direction of the Board of Managers or President.

#### ARTICLE IV.

##### ORDER OF BUSINESS.

SECTION 1. The order of business at meetings shall be as follows, unless otherwise ordered:

1. Roll call.
2. Reading of minutes not previously read.
3. Election of Managers and officers.
4. Communications.
5. Reports of committees.
6. Report of the Treasurer.
7. Miscellaneous business.

Reports and resolutions shall be in writing. The yeas and nays may be called on any resolution authorizing the expenditure of money, and upon any other question when requested by one Manager or one member of the Executive Committee.

## ARTICLE V.

## COMMITTEES.

SECTION 1. There shall be three standing committees, to be annually appointed by the Board of Managers : an Executive Committee, a Finance Committee, and an Auditing Committee.

SEC. 2. The Executive Committee shall consist of seven Managers in addition to the President, and shall have the full powers of the Board, except so far as such a delegation of power may be contrary to law. At each meeting of the Board the Executive Committee shall make a full report of its action since the last meeting of the Board. Four of their number shall constitute a quorum.

SEC. 3. The Finance Committee shall consist of five members, and have authority at any time to inspect the books and accounts of the Treasurer, give directions to him, and exercise a general supervision over the property of the corporation.

SEC. 4. The Auditing Committee shall consist of three members, and shall audit the accounts of the Treasurer and of the corporation, and present a report thereon at each regular meeting of the Managers, and at the annual meeting of the corporation.

SEC. 5. Any vacancy occurring in the membership of the several committees, between the meetings of the Board of Managers, may be filled by the remaining members of the committee until the next meeting of the managers.

## ARTICLE VI.

## MEMBERSHIP OF THE CORPORATORS.

SECTION 1. The persons named in the first section of the act creating this corporation, and such others as shall become associated with them upon the conditions prescribed in these By-laws, shall be members of this corporation.

SEC. 2. Any member of the corporation may propose persons for membership. The name, occupation, and place of residence of every person proposed shall be submitted to the Board or to the Executive Committee, and such person, when approved by the Board or said Committee, shall be a member of the corporation as long as such person shall pay to the Treasurer the annual dues.

SEC. 3. Any member of the corporation may become a life member by payment to the Treasurer, at one time, of the sum of two hundred dollars.

SEC. 4. Any member of the corporation may become a patron by giving real or personal property of the value of one thousand dollars or more.

SEC. 5. The managers may elect as honorary members of the Society persons who have rendered marked services in the science of zoology or natural history, but not more than three shall be elected in any one calendar year.

Corresponding members may be chosen from those who communicate valuable information to the Society, or who have rendered especial service in the science of zoology or natural history.

Patrons, life members, honorary and corresponding members shall be exempt from the payment of annual dues.

SEC. 6. Neither the corporation nor any of its managers or officers shall contract any debt which, with existing debts, shall exceed in amount the moneys then in the treasury.

SEC. 7. The annual dues of each member of the corporation shall be ten dollars, payable in advance on the first day of May.

SEC. 8. The fiscal year of the corporation shall be the calendar year commencing January 1st and ending December 31st.

#### ARTICLE VII.

##### AMENDMENTS.

SECTION 1. Amendments to these By-laws may be proposed in writing at any meeting of the Managers and adopted by unanimous consent of the Managers present.

If a proposed amendment is postponed until a subsequent meeting, the Secretary shall, with the notices of the next meeting, send to each Manager a copy of it, stating that it will be brought up for action at such meeting, when it may be passed by a majority vote.

#### ARTICLE VIII.

##### PENALTIES.

SECTION 1. Any member named in the first section of the Act of Incorporation who shall fail to pay his dues for the year of 1895 on or before the 31st day of January, 1896, shall cease to be a member of this Society. Notice of this by-law shall be given by the Secretary to each member affected thereby.

SEC. 2. Any member who shall fail to pay his annual dues within three months after the same shall have become due, and after notice of thirty days, by mail, shall cease to be a member of the Society; subject, however, to reinstatement by the Board of Managers or Executive Committee for good cause shown.

SEC. 3. Any person elected to membership who shall fail to qualify within three months after notice of his election shall be considered to have declined his election; but such term may be extended by the Board of Managers or Executive Committee.

## THE ZOOLOGICAL SOCIETY FUND.

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Coincident with the publication of this Report, the Board of Managers will begin to circulate subscription lists for the purpose of creating the Society Fund which is now imperatively necessary to bring the Zoological Park into existence. Each list bears the following printed heading:

The New York Zoological Society was incorporated, by special act of the Legislature, April 26, 1895, to establish and maintain a Zoological Garden in the City of New York, to encourage the study of Zoology, and to furnish instruction and recreation to the people, and the Commissioners of the Sinking Fund were authorized by said act to allot, and appropriate for the uses of said Society, any of the lands belonging to the City north of 155th Street, under certain conditions therein stated.

After careful surveys by experts, and investigations of all the City lands within the prescribed limits, the Society has selected and applied to the Sinking Fund Commissioners for the allotment of about 260 acres forming part of South Bronx Park, a site eminently and specially adapted to the purposes of the proposed Zoological Park, and after having made extensive and exhaustive examinations and studies of all the principal Zoological Gardens in Europe has submitted with such application preliminary plans of the proposed Zoological Park on a scale commensurate with the dignity of this City, including buildings, enclosures and pleasure grounds.

The Mayor, the Board of Park Commissioners, and the Commissioners of the Sinking Fund have signified their general approval of the application for the land, and of the proposals of the Society. Certain matters of detail remain to be adjusted before the Society's application to the City and agreement with the Park Board can be formally acted upon.

Up to this time the entire expenses of the Society, including all preliminary expenses, the examination of sites, surveys, expenses of experts and the making of plans, investigations abroad, and other similar charges have been met by individual subscriptions by the incorporators, managers and members of the Society, or from memberships or dues; and, although the Society is now entirely free from debt of any description, it becomes necessary to appeal to the public upon whose behalf the entire work has been undertaken, and in reliance upon whose assistance the work has been carried to the present condition, to provide the Society Fund required for buildings and collections, for endowment and for the general expenses of the Society.

As a condition of the grant of land and maintenance by the City, the Society is required to raise \$250,000, an amount equivalent to that recently raised for the establishment of the Botanical Garden. Of this amount \$100,000 is to be raised before the Society enters into occupation of the Park. This Society Fund is to be expended upon the buildings and collections of animals, and for the general purposes of the Society. Subscriptions may be to the general fund, or in the form of donation of buildings. Plans and estimates of the buildings which will be first erected are now being prepared.

Any person may become a Patron by giving real or personal property of the value of \$1,000 or more. A gift of \$5,000 entitles the giver to the rank of a Founder.

#### SUBSCRIPTION TO THE ZOOLOGICAL SOCIETY FUND.

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We, the undersigned, each for himself or herself and not for the other, but each in consideration of the foregoing and the agreement of the others, do hereby subscribe and agree to pay to the New York Zoological Society for the Society Fund, for the purposes set forth in the Charter, and in furtherance of any contract which shall be made with the City, the several sums placed opposite our respective names.

Subscriptions shall be payable, (1) in full within one month after notification by the Secretary of the Society, or, (2) in four equal monthly installments following the date of such notification, at the option of the subscriber, to the order of the TREASURER OF THE NEW YORK ZOOLOGICAL SOCIETY, ATLANTIC TRUST CO., 39 WILLIAM STREET, NEW YORK.

## COMMUNICATION REGARDING THE NEEDS OF ARTISTS IN THE ZOOLOGICAL PARK.

---

*123 Fifth Ave., N. Y., 18 Jan., 1897.*

*The Secretary of* NEW YORK ZOOLOGICAL SOCIETY.

*Dear Sir:* The time seems appropriate for offering suggestions regarding the plans of the buildings to be erected for the Zoological Park, and as an artist I wish to make a few remarks in criticism of the cages, etc., in existing zoological gardens.

My own experience is limited to the gardens of America, England and France. In each of these the artists have scarcely any better privileges than those accorded to the general public. Zoological gardens are usually intended to assist two classes of students, viz., biological and artistic. The first have simply every privilege they can ask for, or at least that it is possible to give them. Why the artists should be so ignored is a puzzle to me; and certainly it is not right.

Let me be more specific. The zoological student has the privilege of a room to himself, where his animal, dead or alive, is placed for him. He usually has access to this room and to the gardens at all times, independently of hours of public admission; and, lastly,—and this is not such a small matter as it may at first seem,—the keepers are given to understand that it is part of their business to aid him.

The artist, on the other hand, is, in nearly every zoological garden that I know of, obliged to use the place only when it is open to the public. He has no separate place of study to protect him from the nuisance of the weather, and the still greater nuisance of the public. He is not allowed to arrange his animal or his light, or to interfere in any way, more than the ordinary visitor; and the keepers only too often are allowed to regard him as an interloper who must keep things pleasant by continual tipping.

Speaking from my own standpoint—and in this all students as well as the public will, I think, agree—every lion house and every large mammal house that I can call to mind is built with a view to lighting the crowds in the building, not with a view to lighting the animals in the cages. I cannot recall a single good carnivore building that is arranged with skylights in the cages. All are lighted in such a way that the cage is the dark corner of the place. As a matter of fact, it would be more reasonable if the crowd was left in comparative darkness, and the whole zone of light kept in and about the cage.



In some collections that I am well acquainted with, one might suppose that it is not considered desirable to have the animals seen. The cages are of dark wood inside,—of course without windows other than those in front; the bars are one-inch iron, and are (or were) painted white. The bars are about four inches apart, and every few feet are stayed by a much heavier bar, so that from a point of view a little to one side the effect of perspective is to close up the bars and exclude all view! From straight in front, the gloom of the interior is rendered yet more impenetrable by the large, light-colored bars, and even the expert must in dull weather accept the testimony of the label board as the only clue to the identity of the species incarcerated in this veritable dungeon.

Two other blunders of construction are commonly exemplified. First, the floor of the cage is sometimes raised nearly four feet in height. Second, a solid bulwark of wood or iron is placed along the front of the cage, at the bottom of the bars. This is usually six inches high, and quite enough to hide half of a sleeping leopard, or nearly a third of a sleeping lion or tiger; and, whatever the animal, its feet, when standing, are lost to view. What a loss this is to the artist I need not indicate.

In one matter, at least, the interests of students of all kinds and the interests of the public are identical, viz.: the cages should be constructed to exhibit the animal well. I believe in brilliantly lighted cages, with top light in some cases, light colored or white walls, and black bars, without any raised bulwark along the bottom. And I think the floor of the cage should be raised about two feet only.

The bars should be of the strongest steel, and as small and wide apart as is consistent with safety. It seems to me that during the daytime it might be well to use a comparatively light cage-front for a height of about four feet, and at night a heavy grating might be lowered behind, for safety during the absence of the keepers.

These remarks, of course, apply chiefly to the cages for the large carnivores.

Concerning privileges for artists, I would ask that they should have simply what is accorded to the biologists as a matter of course, viz.:—

(1), a comfortable studio set apart for their use, with appliances for properly arranging the light, etc.; (2), conveniences for surrounding themselves with their own work, and for referring to the published or otherwise reproduced works of others; (3), a special cage or cages in the studio, in which from time to time typical animals might be kept for study; (4), absolute protection from annoyance by the general public; (5), free access at all times to this studio as far as is consistent with the proper management of the gardens.

I could speak at length on each of these heads if desired, but will for the present content myself by citing the case of the *Jardin des Plantes*, in Paris. The administration there is supposed to be exceptionally liberal to artists, but the only privilege given them is, of entering early in the

morning, before the gates are opened to the public at eleven. At one o'clock the artists are forced to cease work. Under no circumstances are they allowed to assist themselves with cameras. As no building is set apart for their work or convenience, they are at the mercy of the weather at all times. For at least half the year, therefore, nine-tenths of the collections are not available to the artist, and for only one-half of each day in that half year is he allowed to work, and even then is dependent upon the weather.

As most artists are serious men, working for a living and anxious to work all day, it seems to me that they are cruelly handicapped by these numerous arbitrary regulations, besides being ignored altogether, while students in other departments are provided with abundant conveniences.

There is one objection that I can anticipate, and may as well meet now.

In condemning cage floors that are raised above two feet in height, I will be told that they are necessary to enable the persons at the back of a crowd to see the animals. So far as I have seen, such crowds assemble only about the great carnivores, and here the difficulty is usually met by making raised steps at proper intervals. This plan has already been incorporated in the provisional plans recently shown, and, as I pointed out at the last meeting, the difficulty might be still more effectively met by the addition of a slight iron gallery for spectators. The only objection made to this was that it increased the difficulty of lighting. If, however, the cages are well lighted in themselves, as I have suggested, this difficulty will not exist.

I hope that my numerous suggestions will be found within the pale of practicability and advisability, and I hope, also, that you will excuse my prolixity in a subject which interests me so greatly.

I am, sir,

Yours very truly,

ERNEST SETON THOMPSON.



1922-37

SECOND ANNUAL REPORT  
OF THE  
NEW YORK  
ZOOLOGICAL SOCIETY

CHARTERED IN 1895

OBJECTS OF THE SOCIETY

A PUBLIC ZOOLOGICAL PARK

THE PRESERVATION OF OUR NATIVE ANIMALS

THE PROMOTION OF ZOOLOGY



NEW YORK  
OFFICE OF THE SOCIETY, 67 WALL STREET  
MARCH 15, 1898





WATERMELONS AT THE FARM HOUSE, NEW YORK



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MARCH 15, 1898



L. S. FOSTER,  
PRINTER,  
NEW YORK.

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ABEEL, GEORGE . . . . .	5 East 124th Street
ACKERMAN, WILLIAM W. . . . .	Elizabeth, N. J.
ADAMS, C. H. . . . .	East Hampton, L. I.
ADAMS, THATCHER M. . . . .	15 West 17th Street
AGNEW, ANDREW G. . . . .	23 West 39th Street
AGNEW, MRS. CORNELIUS R. . . . .	Palisades, N. Y.
AITKEN, JOHN W. . . . .	873 Broadway
ALDRICH, MRS. H. D. . . . .	200 Madison Avenue
ALDRICH, MRS. JAMES HERMAN . . . . .	150 West 49th Street
ALEXANDER, FRANK D. . . . .	123 West 44th Street
ALEXANDER, JAMES W. . . . .	4 East 64th Street
ALEXANDER, WELCOME T. . . . .	940 St. Nicholas Avenue
ANDERSON, A. A. . . . .	6 East 38th Street
ANDREINI, J. M. . . . .	29 West 75th Street
ANDREWS, J. SHERLOCK . . . . .	Rochester, N. Y.
ANDREWS, W. C. . . . .	2 Cortlandt Street
APPLETON, FRANCIS R. . . . .	21 Maiden Lane
APPLETON, JAMES W. . . . .	Knickerbocker Club
ARCHBOLD, JOHN D. . . . .	20 East 37th Street
AUCHINCLOSS, MRS. EDGAR S. . . . .	24 East 48th Street
AUCHINCLOSS, HUGH D. . . . .	17 West 49th Street
BABCOCK, SAMUEL D. . . . .	32 Nassau Street
BALDWIN, DR. JARED G. . . . .	8 East 41st Street
BARBER, THOMAS H. . . . .	105 East 39th Street
BARR, WILLIAM . . . . .	Llewellyn Park, Orange, N. J.
BARRON, DR. JOHN C. . . . .	70 Park Avenue
BAXTER, JR., GEORGE S. . . . .	18 Wall Street
BAYLIES, MRS. NATHALIE E. . . . .	1 East 71st Street
BEACH, F. C. . . . .	9 West 20th Street
BEAN, DR. TARLETON H. . . . .	Battery Park Aquarium
BEARD, DANIEL C. . . . .	Flushing, L. I.
BEERS, M. H. . . . .	408 Broadway
BELL, DR. CHRISTOPHER M. . . . .	320 Fifth Avenue
BENSON, FRANK SHERMAN . . . . .	214 Columbia Heights, Brooklyn
BETTS, SAMUEL ROSSITER . . . . .	102 Madison Avenue
BICKMORE, PROF. ALBERT S. . . . .	American Museum of Natural History
BIRD, GEORGE . . . . .	Calumet Club
BIRCHALL, W. H. . . . .	177th Street, Bronx River
BISHOP, DR. LOUIS B. . . . .	77 Whitney Avenue, New Haven, Conn.
BISSINGER, PHILIP . . . . .	19 East 34th Street
BLAGDEN, GEORGE . . . . .	18 East 36th Street
BLAKE, DR. JOSEPH A. . . . .	9 West 68th Street
BLAKEMAN, LOUIS H. . . . .	450 Broome Street
BLAKESLEE, T. J. . . . .	353 Fifth Avenue
BLISS, ERNEST C. . . . .	149 West 57th Street

*BLISS, GEORGE . . . . .	
BLOODGOOD, ROBERT F. . . . .	56 West 37th Street
BLOOMINGDALE, JOSEPH B. . . . .	11 East 67th Street
BOAS, EMIL M. . . . .	37 Broadway
BORKELMAN, PROF. BERNARDUS . . . . .	106 East 45th Street
BOETTGER, H. W. . . . .	2144 Fifth Avenue
BOETTGER, THEODORE . . . . .	738 East 144th Street
BOISSEWAIN, L. G. . . . .	336 West 77th Street
BOLTON, JR., THOMAS . . . . .	Minford Pl., Boston Avenue, City
BOND, A. H. . . . .	64 West 46th Street
BORGSTEDE, JOHN G. . . . .	968 Trinity Avenue
BORROWE, H. A. . . . .	13 Central Park West
BOWDOIN, TEMPLE . . . . .	139 East 37th Street
BOWERS, JOHN M. . . . .	7 West 21st Street
BRADLEY, EDSON . . . . .	802 Fifth Avenue
BREWSTER, WILLIAM C. . . . .	24 East 64th Street
BRIDGEMAN, REV. DR. CHARLES DEWITT . . . . .	18 West 122nd Street
BRONSON, DR. EDWARD BENNET . . . . .	123 West 34th Street
BROWN, JUDGE ADDISON . . . . .	45 West 89th Street
BROWN, WALDRON P. . . . .	32 East 35th Street
BROWNING, WILLIAM H. . . . .	408 Broome Street
BRYANT, DR. JOSEPH D. . . . .	54 West 36th Street
BUDD, HENRY A. . . . .	56 West 58th Street
BULL, DR. WILLIAM T. . . . .	35 West 35th Street
BUTLER, RICHARD . . . . .	6 West 43rd Street
BUTT, MCCOSKRY . . . . .	8 West 52nd Street
CALHOUN, HENRY W. . . . .	247 Fifth Avenue
CALMAN, HENRY L. . . . .	7 West 75th Street
CAMMANN, GEORGE P. . . . .	9 East 53rd Street
CAMMANN, HENRY LORILLARD . . . . .	Box 391, N. Y. City
CAMP, FREDERIC EDGAR . . . . .	Morris Heights, N. Y.
CAREY, H. T. . . . .	41 West 46th Street
CARPENDER, WILLIAM . . . . .	32 Pine Street
CARPENTER, PHILIP . . . . .	38 Park Row
CARROLL, ROYAL PHELPS . . . . .	319 Fifth Avenue
CARTER, WALTER S. . . . .	176 Brooklyn Avenue, Brooklyn
CASSARD, WILLIAM J. . . . .	139 West 70th Street
CHANLER, WINTHROP . . . . .	120 Broadway
CHAPMAN, FRANK M. . . . .	American Museum of Natural History
CHICHESTER, CHARLES DARWIN . . . . .	46 Wall Street
CHITTENDEN, JARED . . . . .	1 West 30th Street
CHRYSTIE, WILLIAM F. . . . .	Hastings-on-Hudson
CHURCH, WILLIAM C. . . . .	51 Irving Place
CLARK, WILLIAM N. . . . .	170 William Street
CLARKSON, BANYER . . . . .	15 West 45th Street
CLARKSON, FREDERICK . . . . .	45 William Street
CLEARY, JOHN . . . . .	121 Madison Avenue
CLYDE, WILLIAM P. . . . .	5 Bowling Green

\* Deceased.

COCKRAN, HON. W. BOURKE . . . . .	763 Fifth Avenue
COFFIN, CHARLES H. . . . .	New Rochelle, N. Y.
COFFIN, WILLIAM E. . . . .	66 Broadway
COHEN, SAMUEL M. . . . .	36 West 45th Street
COLBURN, N. A. . . . .	Murray Hill Hotel
COLLIER, PRICE . . . . .	Tuxedo Park
COLLIER, P. F. . . . .	521-549 W. 13th Street
COLLINS, MRS. ELLEN . . . . .	41 West 11th Street
COMPTON, ALEXANDER T. . . . .	237 Broadway
*CORBIN, AUSTIN . . . . .	
CORBIN, JR. AUSTIN . . . . .	192 Broadway
COX, CHARLES F. . . . .	54 East 67th Street
CRAWFORD, FRANCIS . . . . .	24 East 42nd Street
CRIMMINS, JOHN D. . . . .	621 Broadway
CUTTING, W. BAYARD . . . . .	24 East 72nd Street
DALY, HON. CHARLES P. . . . .	84 Clinton Place
*DANA, CHARLES A. . . . .	
DANIELS, GEORGE H. . . . .	Grand Central Depot
DAVISON, CHARLES S. . . . .	56 Wall Street
DAVISON, G. HOWARD . . . . .	Milford, N. Y.
DEAN, PROF. BASHFORD . . . . .	Columbia University
DE FOREST, ROBERT W. . . . .	7 Washington Square, North
DELAFIELD, ALBERT . . . . .	45 Cedar Street
DEMING, HORACE E. . . . .	11 William Street
DE PEYSTER, JOHNSTON L. . . . .	Tivoli, N. Y.
DE RHAM, H. CASIMIR . . . . .	Tuxedo, N. Y.
DEVOE, FREDERIC W. . . . .	101 Fulton Street
DE WITT, WILLIAM G. . . . .	10 West 30th Street
DICKEY, JR., CHARLES D. . . . .	59 Wall Street
DIETRICH, CHARLES F. . . . .	963 Fifth Avenue
DITMARS, R. L. . . . .	1666 Bathgate Avenue
DODGE, CLEVELAND H. . . . .	11 Cliff Street
DODGE, NORMAN W. . . . .	81 New Street
DOMMEIN, G. S. . . . .	314 West 75th Street
DORMITZER, MRS. HENRY D. . . . .	27 East 74th Street
DRAKE, JOHN J. . . . .	58 William Street
DRAPER, DR. W. H. . . . .	19 East 47th Street
DUANE, MRS. ARTHUR . . . . .	Sharon, Conn.
DUNCAN, A. BUTLER . . . . .	1 Fifth Avenue
DUNHAM, JAMES H. . . . .	37 East 36th Street
DURVEA, GEN'L. HIRAM . . . . .	80 Madison Avenue
DUTCHER, WILLIAM . . . . .	525 Manhattan Avenue
EATON, DORMAN B. . . . .	2 East 29th Street
EDGAR, D. . . . .	Noroton, Conn.
EDGAR, MISS JULIA L. . . . .	28 East 39th Street
EDGAR, NEWBOLD . . . . .	28 East 39th Street
EGDELL, GEORGE S. . . . .	192 Broadway
ELDER, MRS. MATILDA A. . . . .	25 East 30th Street

\* Deceased.

ELLSWORTH, DUNCAN S . . . . .	Watkins, N. Y.
ELLSWORTH, JOHN MAGEE . . . . .	Corning, N. Y.
ELLSWORTH, WILLIAM . . . . .	16 Lafayette Ave., Brooklyn, N. Y.
EMERY, JOHN J . . . . .	5 East 68th Street
EMMET, ROBERT TEMPLE . . . . .	New Rochelle, N. Y.
ENDEMANN, WILLIAM . . . . .	1263 Franklin Avenue
EUSTIS, JAMES B . . . . .	8 East 32nd Street
EVANS, MRS. CADWALADER . . . . .	123 East 40th Street
EVANS, RICHARD . . . . .	92 William Street
FAHNESTOCK, HARRIS C . . . . .	457 Madison Avenue
FALK, GUSTAV . . . . .	24 East 81st Street
FARGO, JAMES C . . . . .	50 Park Avenue
FARNHAM, PAULDING . . . . .	15 Union Square
FLAGG, THOMAS J . . . . .	22 West 85th Street
FLINT, THOMPSON J. S . . . . .	Larchmont, N. Y.
FORD, JAMES B . . . . .	507 Fifth Avenue
FOSTER, EDWARD W . . . . .	504 Fifth Avenue
FOSTER, L. S . . . . .	33 Pine Street
FOSTER, M. G . . . . .	St. Nicholas Avenue, near 153rd Street
FOSTER, PELL W . . . . .	West 158th Street
FRANKFIELD, MRS. A . . . . .	328 West 56th Street
FULDA, CARL . . . . .	107 Kent Street, Brooklyn
FULDA, DR. CLEMENS . . . . .	107 Kent Street, Brooklyn
FULLER, CHARLES D . . . . .	46 West 9th Street
GARRETT, JOHN W . . . . .	11 South Street, Baltimore, Md.
GERRISH, JOHN BROWN . . . . .	15 East 54th Street
GIBNEY, DR. VIRGIL P . . . . .	16 Park Avenue
GILL, GEORGE . . . . .	164 S. 4th Avenue, Mt. Vernon, N. Y.
GILLILAN, WILLIAM H . . . . .	267 Fifth Avenue
GILLIS, CHARLES J . . . . .	128 East 24th Street
GILMAN, THEODORE . . . . .	311 Palisade Avenue, Yonkers
GODDARD, F. N . . . . .	2 East 35th Street
GODDARD, MRS. G. WARREN . . . . .	52 East 57th Street
GOODHUE, MRS. C. C . . . . .	189 Madison Avenue
GOODWIN, REV. FRANCIS . . . . .	Hartford, Conn.
GOODRICH, MRS. FREDERIC . . . . .	250 Fifth Avenue
GOULD, CHARLES A . . . . .	Rye, N. Y.
GOULD, C. W . . . . .	5 Washington Square
GOULD, EDWIN . . . . .	Irvington-on-Hudson, N. Y.
GOULD, MISS HELEN MILLER . . . . .	Irvington-on-Hudson, N. Y.
GRACE, WILLIAM R . . . . .	31 East 79th Street
GREENE, COL. FRANCIS V . . . . .	1 Broadway
GREENOUGH, JOHN . . . . .	31 West 35th Street
GREENWOOD, ISAAC J . . . . .	271 West End Avenue
GREGORY, HENRY E . . . . .	214 Broadway
GRINNELL, GEORGE BIRD . . . . .	346 Broadway
GRINNELL, WILLIAM MORTON . . . . .	42 East 66th Street
GRISWOLD, CHESTER . . . . .	23 West 48th Street

GROSSMAN, GEORGE J . . . . .	952 Trinity Avenue
GULLIVER, W. C . . . . .	120 Broadway
GURNEE, JR. W. S . . . . .	8 East 33rd Street
HADDEN, DR. ALEXANDER . . . . .	155 East 51st Street
HAINES, EDWIN IRVINE . . . . .	Liberty Avenue and Poplar Pl., New Rochelle
HALL, MRS. VALENTINE G . . . . .	11 West 37th Street
HALSTED, MISS L. P . . . . .	110 East 37th Street
HARBECK, CHARLES T . . . . .	Islip, N. Y.
HART, WILLIAM W . . . . .	47 East 12th Street
HARVEY, ALEXANDER . . . . .	Calumet Club
HASWELL, CHARLES H . . . . .	42 Broadway
HAVEMEYER, C. F . . . . .	117 Wall Street
*HAVEMEYER, THEODORE A . . . . .	
HAVENS, ALBERT G . . . . .	East Orange, N. J.
HAYDEN, HORACE J . . . . .	116 East 18th Street
HAYNES, WILLIAM DeFOREST . . . . .	16 East 36th Street
HAZARD, MISS MARY P . . . . .	Peace Dale, R. I.
HECKSCHER, JOHN GERARD . . . . .	31 West 75th Street
HEINS, GEORGE L . . . . .	5 Beekman Street
HELMUTH, DR. WILLIAM TOD . . . . .	504 Fifth Avenue
HENDRICKS, CLIFFORD B . . . . .	512 Fifth Avenue
HILL, GEORGE H. B . . . . .	Metropolitan Club
HILL, JAMES K . . . . .	Windsor Hotel
HILYARD, GEORGE D . . . . .	144 East 49th Street
HINTON, DR. JOHN H . . . . .	41 West 32 Street
HOFFMAN, VERY REV. E. A . . . . .	1 Chelsea Square
HOLBROOK, MISS LILIAN . . . . .	128 West 73rd Street
HOLT, HENRY . . . . .	711 Madison Avenue
HOPKINS, MRS. DUNLAP . . . . .	10 West 30th Street
HORNADAY, WILLIAM T . . . . .	69 Wall Street
HOSKIER, H. C . . . . .	26 Exchange Place
HOYT, ALFRED M . . . . .	1 Broadway
HOYT, JESSE . . . . .	257 West 73d Street
*HOUGHTON, REV. DR. G. H . . . . .	
HUMBERT, ARTHUR C . . . . .	8 West 53rd Street
HUNTINGTON, GEORGE . . . . .	437 West 59th Street
HUSTED, H. B . . . . .	276 Gates Avenue, Brooklyn
HYDE, B. T. BABBITT . . . . .	20 West 53rd Street
HYDE, CLARENCE M . . . . .	206 Madison Avenue
ISELIN, JR., ADRIAN . . . . .	9 East 26th Street
ISHAM, CHARLES H . . . . .	123 East 37th Street
JACKSON, FREDERIC WENDELL . . . . .	Westchester, N. Y. City
JACKSON, THEODORE F . . . . .	10 West 37th Street
JACOBI, DR. A . . . . .	110 West 34th Street
JACQUELIN, JOHN H . . . . .	34 East 38th Street
JAMES, ARTHUR CURTISS . . . . .	92 Park Avenue
JAMES, DR. WALTER B . . . . .	31 West 54th Street
JARVIS, JR., NATHANIEL . . . . .	62 East 55th Street

\* Deceased.

JENNINGS, OLIVER G . . . . .	54 William Street
JENNINGS, WALTER . . . . .	11 East 41st Street
JOLINE, ADRIAN HOFFMAN . . . . .	1 West 72nd Street
JONES, LEWIS Q . . . . .	37 Fifth Avenue
KANE, JOHN INNES . . . . .	49 West 23rd Street
KANE, S. NICHOLSON . . . . .	23 West 47th Street
KEMP, ARTHUR T . . . . .	720 Fifth Avenue
KENNEDY, JOHN S . . . . .	6 West 57th Street
KERSTING, RUDOLF . . . . .	104 Fulton Street
KING, WILLIAM F . . . . .	17 East 63rd Street
KIP, COL. LAWRENCE . . . . .	452 Fifth Avenue
KLOPSCH, LOUIS . . . . .	100 East 17th Street
KNAPP, DR. HERMAN . . . . .	26 West 40th Street
KNAPP, JOHN M . . . . .	66 Broadway
KNAUTH, PERCIVAL . . . . .	302 West 76th Street
KNIGHT, CHARLES R . . . . .	American Museum of Natural History
KNIGHT, HENRY E . . . . .	109 Spring Street
KNOEDLER, ROLAND F . . . . .	122 West 13th Street
KOCH, HENRY C. F . . . . .	224 Lenox Avenue
KUHNE, PERCIVAL . . . . .	22 West 56th Street
KUNHARDT, HENRY R . . . . .	124 West 74th Street
KUTTROFF, ADOLF . . . . .	17 East 69th Street
LA FARGE, C. GRANT . . . . .	5 Beekman Street
LAGAI, DR. GEORGE . . . . .	17 Park Place
LAMBERT, ALEXANDER . . . . .	2 East 37th Street
LANDON, FRANCIS G . . . . .	27 William Street
LAWRENCE, CYRUS J . . . . .	81 Park Avenue
LAWRENCE, NEWBOLD T . . . . .	51 Liberty Street
LAWRENCE, W. V . . . . .	969 Fifth Avenue
LEAVY, DR. EDWARD N . . . . .	166 East 61st Street
LEFFERTS, MARSHALL C . . . . .	34 East 65th Street
LE GENDRE, WILLIAM C . . . . .	59 Wall Street
LESHER, A. L . . . . .	9 East 75th Street
LEWIS, DR. E. A . . . . .	120 Pierrepont St., Brooklyn
LICKMAN, ALBERT E . . . . .	2683 Third Avenue
LITCHFIELD, EDWARD H . . . . .	59 Wall Street
LIVINGSTON, GOODHUE . . . . .	287 Fourth Avenue
LIVINGSTON, ROBERT R . . . . .	9 East 9th Street
LIVINGSTON, WILLIAM S . . . . .	670 Lexington Avenue
LOBENSTINE, WILLIAM CHRISTIAN . . . . .	245 Central Park West
LOGAN, WALTER S . . . . .	206 W. 72nd Street
LOW, A. A . . . . .	Pierrepont Place, Brooklyn
LUSK, PROF. GRAHAM . . . . .	New Haven, Conn.
LUTTGEN, WALTER . . . . .	23 Nassau Street
LYDIG, DAVID . . . . .	49 East 29th Street
LYDIG, PHILIP M . . . . .	Knickerbocker Club
LYMAN, FRANK . . . . .	40 Remsen Street, Brooklyn
MCALAN, JOHN . . . . .	4 West 84th Street
MCALPIN, CHARLES W . . . . .	11 East 90th Street

MCALPIN, COL. E. A . . . . .	146 Avenue D
MCALPIN, GEORGE L. . . . .	9 East 90th Street
MCALL, JOHN A . . . . .	54 West 72d Street
MCCLURE, S. S . . . . .	141 East 25th Street
MCGEE, JAMES . . . . .	26 Broadway
MCGOWAN, DR. JOHN P . . . . .	20 East 29th Street
McKIM, REV. HASLETT . . . . .	33 West 20th Street
McLEAN, JAMES . . . . .	16 West 55th Street
MAGEE, JOHN . . . . .	Corning, N. Y.
MALI, CHARLES W . . . . .	93 Willow Street, Brooklyn
*MANICE, DE FOREST . . . . .	
MARLOR, HENRY S . . . . .	Care of Hatch & Foote, 3 Nassau Street
MARSHALL, LOUIS . . . . .	33 East 72nd Street
MARTIN, F. E . . . . .	28 Pine Street
MARX, GEORGE B . . . . .	340 East 118th Street
MAXWELL, ROBERT . . . . .	64 Worth Street
MEAD, WALTER H . . . . .	222 West 23rd Street
MILLER, CHARLES R . . . . .	41 Park Row
MILLER, HON. WARNER . . . . .	Times Building
MILLS, ABRAHAM G . . . . .	157 West 86th Street
MONTANT, ALPHONSE . . . . .	326 West 22nd Street
MOORE, FRANCIS C . . . . .	1 West 72nd Street
MOORE, JOHN G . . . . .	11 East 65th Street
MORGAN, JR., J. P . . . . .	8 East 36th Street
MORRIS, DAVE H . . . . .	Westchester, N. Y. City
MORRIS, FORDHAM . . . . .	16 Exchange Place
MORRIS, LEWIS R . . . . .	35 West 36th Street
MOTT, JR., JORDAN L . . . . .	17 East 47th Street
MUNN, HENRY NORCROSS . . . . .	Orange, N. J.
MURGATROYD, JOHN . . . . .	458 Pacific Street, Brooklyn
NASH, J. WARREN . . . . .	Windsor Hotel
NICOLL, DE LANCEY . . . . .	123 East 38th Street
NICHOLS, GEORGE L . . . . .	66 East 56th Street
NILES, ROBERT L . . . . .	66 Broadway
NILES, HON. W. W . . . . .	11 Wall Street
NORTH, JR., DR. JAMES H . . . . .	23 East 64th Street
NOTMAN, JOHN . . . . .	54 Wall Street
NUNAN, D . . . . .	37 Park Row
OSBORN, MRS. HENRY F . . . . .	850 Madison Avenue
OUTERBRIDGE, DR. PAUL . . . . .	35 West 53rd Street
OVERBAUGH, DEWITT C . . . . .	Kingsbridge, N. Y.
OWEN, MRS. THOMAS JEFFERSON . . . . .	23 West 34th Street
PAGE, J. SEAVER . . . . .	101 Fulton Street
PALMEDO, U . . . . .	28 Exchange Place
PALMER, S. S . . . . .	52 Wall Street
PANCOAST, RICHARD . . . . .	28 Platt Street
PARKER, ANDREW D . . . . .	220 Broadway
PARSONS, MRS. EDWIN . . . . .	90th Street and Riverside

\* Deceased.



PATTERSON, J. M . . . . .	Highbridge Road, Fordham
PECK, THEODORE G . . . . .	Haverstraw, N. Y.
PELL, ALFRED . . . . .	Highland Falls, N. Y.
PELTON, FRANKLIN D . . . . .	Calumet Club
PENFOLD, WILLIAM HALL . . . . .	10 East 40th Street
PENNIMAN, GEORGE H . . . . .	536 Fifth Avenue
PETERS, CHARLES G . . . . .	13 East 76th Street
PETERS, W. R . . . . .	23 West 73rd Street
PHIFER, ROBERT F . . . . .	46 West 17th Street
PIEL, GOTTFRIED . . . . .	68 Sheffield Avenue, Brooklyn
PIERREPONT, JOHN JAY . . . . .	Pierrepont Place, Brooklyn
PIERSON, J. FREDERICK . . . . .	20 West 52nd Street
PINCHOT, GIFFORD . . . . .	2 Gramercy Park
PINCHOT, J. W . . . . .	2 Gramercy Park
PLYMPTON, GILBERT M . . . . .	30 West 52nd Street
POND, A. EDWARD . . . . .	124 Fifth Avenue
PORTER, H. H . . . . .	120 Broadway
POST, ABRAM S . . . . .	173 Madison Avenue
POST, EDWARD C . . . . .	250 West End Avenue
POST, JR., GEORGE B . . . . .	Mills Building
POSTLEY, CLARENCE A . . . . .	817 Fifth Avenue
PRATT, DALLAS B . . . . .	24 West 48th Street
PRYER, CHARLES . . . . .	New Rochelle, N. Y.
PYLE, JAMES TOLMAN . . . . .	673 Fifth Avenue
PYNE, M. TAYLOR . . . . .	52 Wall Street
RAND, GEORGE C . . . . .	Lawrence, L. I.
RANDOLPH, L. V. F . . . . .	39 William Street
RANDOLPH, WILLIAM M . . . . .	31 Nassau Street
RAUCH, WILLIAM . . . . .	Union Club
REDMOND, HENRY S . . . . .	114 East 19th Street
RHOADES, JOHN HARSEN . . . . .	559 Madison Avenue
RHODES, BRADFORD . . . . .	Mamaroneck, N. Y.
RICHARD, AUGUSTE . . . . .	12 East 69th Street
RICHARDS, CHARLES F . . . . .	77 Chambers Street
RIKER, SAMUEL . . . . .	27 East 69th Street
ROBBINS, S. HOWLAND . . . . .	20 East 27th Street
ROBISON, WILLIAM . . . . .	18 Wall Street
ROBINSON, NELSON . . . . .	23 East 55th Street
ROCKEFELLER, WILLIAM . . . . .	26 Broadway
ROGERS, HENRY PENDLETON . . . . .	35 West 49th Street
ROLLE, AUGUST J . . . . .	1185 Lexington Avenue
ROOT, ELIHU . . . . .	32 Liberty Street
ROSENWALD, ISAAC . . . . .	141 Water Street
ROWLEY, JR., JOHN . . . . .	American Museum of Natural History
RUPPERT, JACOB . . . . .	1116 Fifth Avenue
SACKETT, CLARENCE . . . . .	196 Madison Avenue
SAGE, DEAN . . . . .	Albany, N. Y.
SAINT GAUDENS, AUGUSTUS . . . . .	3 Rue de Ragnéu, Paris

SAUTER, FREDERICK . . . . .	13 Sutton Place
SCHEFER, CARL . . . . .	40 West 37th Street
SCHIEFFELIN, WILLIAM J. . . . .	170 William Street
SCHIRMER, RUDOLPH E. . . . .	241 East 17th Street
SCHULTZE, JOHN S. . . . .	59 Wall Street
SCHUMACHER, C. . . . .	31 East 81st Street
SCHUYLER, MISS LOUISA LEE . . . . .	135 East 21st Street
SELIGMAN, ALFRED L. . . . .	Mills Building
SEWELL, CORNELIUS V. V. . . . .	68 West 45th Street
SEYMOUR, JULIUS H. . . . .	35 Wall Street
SEYMOUR, WILLIAM W. . . . .	35 Wall Street
SHAW, WALTER W. . . . .	Care of Metropolitan Trust Co., 39 Wall Street
SHELDON, GEORGE R. . . . .	89 Park Avenue
SHERMAN, GARDINER . . . . .	235 West 72nd Street
SHIELDS, GEORGE O. . . . .	19 West 24th Street
SHONNARD, FREDERICK . . . . .	Yonkers, N. Y.
SHURTLEFF, R. M. . . . .	44 West 22nd Street
SIMPSON, JR., JOHN BOULTON . . . . .	5 East 14th Street
SKIDMORE, WILLIAM L. . . . .	49 West 52nd Street
SMITH, DR. EDWARD A. . . . .	105 East 18th Street
SMITH, FRANK SULLIVAN . . . . .	54 William Street
SMITH, GEORGE WARREN . . . . .	Metropolitan Club
SMITH, PHILIP S. . . . .	46 Johnson Park, Buffalo, N. Y.
SMITH, WILLIAM ALEXANDER . . . . .	412 Madison Avenue
SMITHERS, CHARLES . . . . .	507 Madison Avenue
SMYTH, PHILIP A. . . . .	57 East 127th Street
SOPER, A. W. . . . .	150 West 59th Street
SPENCER, SAMUEL . . . . .	80 Broadway
SQUIBB, DR. E. H. . . . .	36 Doughty Street, Brooklyn
STAHL, JR., JACOB . . . . .	1273 Franklin Avenue
STARIN, JOHN H. . . . .	Pier 13, North River
STEBBINS, JAMES H. . . . .	80 Madison Avenue
STECHELT, GUSTAV E. . . . .	1369 Dean Street, Brooklyn
STERN, ISAAC . . . . .	858 Fifth Avenue
STEWART, E. L. R. . . . .	267 Fifth Avenue
STEWART, LISPENARD . . . . .	31 Nassau Street
STEWART, WILLIAM R. . . . .	31 Nassau Street
STIMPSON, DR. DANIEL M. . . . .	11 West 17th Street
STOKES, J. G. PHELPS . . . . .	229 Madison Avenue
STONE, MASON A. . . . .	20 East 66th Street
STONEBRIDGE, CHARLES H. . . . .	2656 Third Avenue
STORCK, GEORGE H. . . . .	30 West 9th Street
STRATFORD, PROF. WILLIAM . . . . .	263 West 52nd Street
STUART, INGLIS . . . . .	69 Wall Street
STURGES, FREDERICK R. . . . .	36 Park Avenue
STURGES, HENRY C. . . . .	56 East 34th Street
STUYVESANT, RUTHERFURD . . . . .	18 Exchange Place
SULLIVAN, MRS. JAMES . . . . .	36 Park Avenue

SWAYNE, FRANCIS B . . . . .	326 West 90th Street
SWAYNE, GEN. WAGER . . . . .	120 Broadway
TAYLOR, MISS ALEXANDRINA . . . . .	Plaza Hotel
TAYLOR, DWIGHT W . . . . .	500 Madison Avenue
TAYLOR, HENRY A. C . . . . .	52 Wall Street
TEFFT, WILLIAM E . . . . .	22 East 64th Street
TERRY, REV. RODERICK . . . . .	169 Madison Avenue
THACHER, MRS. GEORGE W . . . . .	Park Avenue Hotel
THOMAS, SAMUEL . . . . .	17 West 57th Street
THOMPSON, ERNEST SETON . . . . .	144 Fifth Avenue
THOMPSON, ROBERT MEANS . . . . .	5 East 53rd Street
THOMPSON, PROF. W. GILMAN . . . . .	34 East 31st Street
THORNE, W. V. S . . . . .	Metropolitan Club
TIFFANY, LOUIS C . . . . .	7 East 72nd Street
TILT, ALBERT . . . . .	5 East 67th Street
TOD, J. KENNEDY . . . . .	45 Wall Street
TOEL, WILLIAM . . . . .	20 East 57th Street
TOOTHE, WILLIAM . . . . .	Madison, N. J.
TOWNSEND, HOWARD . . . . .	29 West 39th Street
TOWNSHEND, JOHN . . . . .	302 West 73rd Street
TOWS, COE DOWNING . . . . .	Buckingham Hotel
TRASK, SPENCER . . . . .	27 Pine Street
TURNURE, LAWRENCE . . . . .	417 Fifth Avenue
UPP, THOMAS M . . . . .	57 West 137th Street
VALENTINE, DR. WILLIAM A . . . . .	45 West 35th Street
VAN BRUNT, C. H . . . . .	10 East 46th Street
VAN CORTLANDT, AUGUSTUS . . . . .	Tuxedo Park, N. Y.
VANDERPOEL, MRS. JOHN A . . . . .	224 Madison Avenue
VAN PELT, GILBERT S . . . . .	123 East 69th Street
VAN VALKENBURG, WILLIAM . . . . .	222 West 21st Street
VAN WINKLE, EDGAR B . . . . .	115 East 70th Street
VORCE, A. D . . . . .	353 Fifth Avenue
WADSWORTH, CLARENCE S . . . . .	Middletown, Conn.
WAGSTAFF, C. DU BOIS . . . . .	Babylon, L. I.
WANNINGER, CHARLES . . . . .	1143 Park Avenue
WARDWELL, WILLIAM T . . . . .	21 West 58th Street
WARING, JR., COL. GEORGE E . . . . .	121 Madison Avenue
WATERBURY, JOHN I . . . . .	20 Wall Street
WATSON, CHARLES F . . . . .	S. E. corner Madison Avenue and 54th Street
WEBB, DR. W. SEWARD . . . . .	Shelbourne, Vt.
WHITE, STANFORD . . . . .	160 Fifth Avenue
WHITNEY, CASPAR . . . . .	21 West 31st Street
WILLIAMS, G. G . . . . .	34 West 58th Street
WILLIS, CHARLES T . . . . .	309 West 82nd Street
WILMERDING, GUSTAV I . . . . .	135 Madison Avenue
WINTHROP, EGERTON L . . . . .	23 East 33rd Street
WINTHROP, R. D . . . . .	Knickerbocker Club
WITHERBER, FRANK S . . . . .	40 Wall Street

WOLFF, EMIL . . . . .	115 West 70th Street
WOOD, J. WALTER . . . . .	South Orange, N. J.
WOOD, JR., J. WALTER . . . . .	Short Hills, N. J.
WOOD, WILLIAM C . . . . .	45 East 10th Street
WOOD, WILLIAM H. S . . . . .	8 East 63rd Street
WOODWARD, F. F . . . . .	Hotel San Remo
WOOSTER, NOYES C . . . . .	38 West 35th Street
WORTHINGTON, CHARLES C . . . . .	86 Liberty Street
WORTMAN, DR. J. L . . . . .	American Museum of Natural History
WRIGHT, J. DUNBAR . . . . .	346 Lexington Avenue
WRIGHT, J. HOWARD . . . . .	346 Lexington Avenue
WRIGHT, MRS. MABEL OSGOOD . . . . .	118 West 11th Street
YOUMANS, EPHRIAM M . . . . .	202 Broadway
ZABRISKIE, ANDREW C . . . . .	716 Fifth Avenue

### Corresponding Member:

STONE, A. J . . . . .	Missoula, Montana
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### Summary of Membership,

To MARCH 15, 1898.

Total number of Founders . . . . .	13
“ “ Associate Founders . . . . .	6
“ “ Patrons . . . . .	21
“ “ Life Members . . . . .	69
“ “ Annual Members . . . . .	491
	<hr/>
	600
Deceased Members . . . . .	10

CONDITIONS OF MEMBERSHIP:—Any two members of the Society may recommend candidates for membership, and all members are requested to add to the working strength of the organization by enlisting the interest of their relatives and friends. There is no initiation fee. The annual dues for Annual Members are \$10.00. The Life Member's fee is \$200; Patron's fee, \$1,000; Associate Founder's fee, \$2,500; Founder's, \$5,000; Benefactor's, \$25,000.

Application blanks will be supplied by the Secretary upon request.

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**William A. Stiles.**

October 6, 1897.

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During the last two years of his life, the Zoological Society was benefited by the cordial sympathy and co-operation of the Hon. William A. Stiles, Park Commissioner, life member of the Society, and also a member of the Board of Managers. As a tribute to the memory of a helpful friend, the following resolution was adopted :

“ RESOLVED, That the Board of Managers of the New York Zoological Society learned with deep regret of the death of their late associate, William A. Stiles, and desire to place on record this tribute to his zeal and interest in the work of this Society, and

“ RESOLVED, That the Secretary cause this Resolution to be spread upon the minutes, and a copy thereof to be transmitted to the family of the late William A. Stiles.”

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## PROGRESS OF THE YEAR.

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### REPORT OF THE EXECUTIVE COMMITTEE TO THE BOARD OF MANAGERS.

This has been an eventful year in the history of the Zoological Society, and has ended in its establishment as a permanent institution for the promotion of zoological knowledge, and the love of animate nature, in the City and State of New York.

All our original objects have been furthered, and we have attained the following noteworthy results :

A contract with the City of New York, unanimously adopted by the Commissioners of the Sinking Fund, March 24, 1897.

Completion of the General Plan of the Park, and its unanimous approval by the Park Commissioners, November 22, 1897.

Subscription of the first \$100,000 toward the gift of \$250,000 from the Society to the City ; completed February 15, 1898.

Preliminary Plans of nine of the principal buildings, prepared and submitted for criticism to several American and European zoological garden specialists.

Increase of the membership of the society from 118 to 600 Active Members.

### AGREEMENT WITH THE CITY.

On March 24, at the final public hearing before the Commissioners of the Sinking Fund, the following Commissioners were present :

Hon. William L. Strong, Mayor ; Hon. Ashbel P. Fitch, Comptroller ; General Anson G. McCook, City Chamberlain ; Hon. John W. Goff, Recorder ; and Alderman John T. Oakley, Chairman of the Finance Committee of the Board of Aldermen.

The proposal by the Society that 261 acres of land in South

Bronx Park should be set apart as the site of the New York Zoological Park, was formally approved in a long resolution prepared by the Corporation Counsel, Hon. Francis M. Scott, setting forth the conditions of the tenure, and the relations to exist between the Society and the City of New York. The full text of the resolution is appended to this report.

This resolution was adopted by the unanimous vote of the Commissioners, and met the approval of both the press and the public. In brief, the collections and animal buildings, to cost not less than \$250,000, are to be presented to the City by the Society. The City is to prepare the ground for occupancy, and maintain the Zoological Park when established. The terms of the grant are equitable to both parties to the transaction, and while demanding more of the Society than the contracts existing between the City and the two Museums, they are, upon the whole, satisfactory. Nevertheless, they involve very liberal contributions to the Park from the citizens of New York.

It is both a duty and a pleasure to record here that in the very serious task the Zoological Society has assumed in undertaking to establish a zoological park for this City on the scale proposed, its efforts were met by the Mayor, the Sinking Fund Commission and the Board of Parks in a most liberal and helpful spirit, without which the accomplishment of the ends attained would have been quite impossible.

In view of the wholly unimproved condition of South Bronx Park, with the consent of the Mayor and the informal approval of the Board of Parks, a bill was introduced in the Legislature, by Senator Charles B. Page in the Senate, and in the Assembly by Mr. George C. Austin, authorizing the City of New York to issue and sell bonds to the amount of \$125,000, for the purpose of meeting the cost of the ground improvements that are necessary to enable the public to utilize and enjoy the park.

Having first received the approval of Mayor Strong and Governor Black, the bill became a law on the 18th day of May, 1897, and is now known as Chapter 510 of the Laws of 1897. The text of the bill appears at the end of this report. In brief, it provides that the Department of Public Parks shall improve South Bronx Park, in accordance with the plans of this Society, as soon as the Zoological Society shall have raised, by subscription or otherwise, the sum of \$100,000 for the prosecution of its own share of the work.



VIEW OF BRONX LAKE,  
LOOKING NORTH, FROM THE EASTERN SHORE.





The schedule of work by the City that is imperatively necessary at the outset, is published herewith. The estimates of cost have been prepared with care by the Director, and with the aid of expert advice obtained in the City's Departments of Parks, Sewers and Water, and elsewhere. The figures given are based on a premise of *strict economy, no useless expenditure, the work needed first to be executed first.*

## SCHEDULE OF WORK, AND ESTIMATED COST.

Rock asphalt walks. . . . .	\$50,275
Sewers. . . . .	17,050
Public comfort buildings. . . . .	10,000
Benches. . . . .	3,000
Workshops and sheds . . . . .	3,000
Burying an open sewer. . . . .	3,300
Service roads for teams. . . . .	4,800
Ponds and pools. . . . .	5,000
Croton-water supply pipes . . . . .	4,377
Reconstruction of dam. . . . .	1,500
Hydraulic engines. . . . .	1,200
Bronx-water supply pipes, to ponds. . . . .	3,058
Fences for animal ranges. . . . .	5,890
Boundary fence. . . . .	1,850
Entrances . . . . .	3,000
Macadamizing yards. . . . .	3,000
Cleaning Bronx River. . . . .	4,700
Total. . . . .	\$125,000

## PREPARATION OF PARK AND BUILDING PLANS.

Immediately after the enactment of this legislation, work was begun on the elaboration of the general plan of the Zoological Park. The *Preliminary Plan*, which had been prepared in 1896 by the Director, was submitted to a searching examination by the Executive Committee. To make sure of meeting all scientific requirements, and especially the needs of the animals, the Committee first invited two of the leading zoological experts of the country to carefully examine the park in connection with the plan. The two gentlemen so invited were Dr. C. Hart Merriam, Chief of the United States Biological Survey of Washington, D. C., and Mr. George Bird Grinnell, editor of *Forest and Stream*. Their reports are so valuable and suggestive that they deserve to be permanently recorded here.

Dr. Merriam writes (April 15, 1897) as follows :

Taken as a whole, the ground selected for the Park could hardly be better adapted to the ends in view. I was surprised to find so near New York City a tract combining such natural beauty and ruggedness, an abundance of mature forest trees, an unlimited water supply, and sufficient diversity of local conditions to meet the needs of nearly all the animals it is desirable to exhibit in a zoological park.

It is true that the Park does not contain ideal places for the Bighorn, Mountain Goat, and Prairie Dogs. With respect to the two former, however, it may be said that no ideal locality exists nearer than the higher peaks of the Catskills. But, by supplementing the rock ridges chosen for the Bighorn and Mountain Goat by artificial masses of rock, I think these animals will secure the best conditions that can be afforded them in the neighborhood of New York City.

With respect to the Prairie Dogs, the only spot in the Park really suited, in my judgment, to the needs of such burrowing animals, is the knoll which on your preliminary plan is surrounded by the four principal houses—the Lion House, Monkey House, Bird House, and Sub-Tropical House. For my part, I see no good reason why these mild-mannered and inoffensive animals could not occupy this prominence without in any way interfering with the animal houses to be erected in the immediate vicinity. If they are put elsewhere it will be necessary to cart in a large quantity of soil to give them sufficient depth of earth for their diggings.

The areas selected for the Bison herd, Antelope, Moose, Caribou, and the various Deer, the ledges for the dens of the Bears, Wolves and Foxes, and the ponds for the Beaver and Muskrat, and so on, seem to me excellently chosen, and well adapted to the wants of these animals, and I do not see how they could be improved.

Near the north entrance of the Park, on the west side of the road, is a picturesque mass of rock partly concealed by junipers. This, in my judgment, is an almost ideal spot for colonies of two of the most beautiful and interesting of our small mammals. I refer to the Silver-sided Ground Squirrel of California (*Spermophilus fisheri*), and the Golden-mantled Ground Squirrel of the Cascade Range in Oregon (*Spermophilus chrysodeirus*). Both of these animals are diurnal, graceful, and extremely beautiful. They naturally live in loose colonies, are easily tamed, and would, in my opinion, form one of the most attractive and interesting exhibits it will be possible to make.

In closing, allow me to express the hope that you and your colleagues will ever bear in mind that the principal object of a Zoological Park is to keep living animals as nearly as possible under natural conditions, and at the same time where they may be seen by the public. This being the case, the aim should always be to give each animal the place best adapted to its habits of life. In some cases the selection of a site must be regarded as experimental, and subject to change. In other cases, certain animals will have to be moved from time to time in order to give them fresh ground. For all these reasons it seems obvious that the Park should be left as nearly as pos-

sible in a state of nature, and that no attempt at landscape gardening should be tolerated—at least for the first few years—until the requirements of the animals and the requirements of the public have become thoroughly adjusted.

I congratulate your Society on having secured so commodious and desirable a site for your new Park, and firmly believe that, under the efficient management of your able Director, it will become the leading zoological park of the world.

Mr. Grinnell's report, dated April 24, 1897, is as follows :

"In the letter referred to, you ask me to report especially (1) as to the desirability of the ranges selected for the principal North American ruminants, (2) as to the locality selected for the dens of the bears, wolves and foxes, (3) as to the beaver pond and (4) as to the site selected for squirrels and other gnawing animals.

"As I have before remarked, the land allotted to the Society for its park is singularly well fitted for the purpose to which it is to be devoted. In topography, in the quantity, character and distribution of the timber on it, in the abundance of its water supply for purposes other than for drinking, and in the great quantity of rock contained within its limits, South Bronx Park seems to contain a combination of the essential requirements of a zoological park such as could hardly be matched anywhere.

"The ranges selected for the bison, antelope, elk, deer, moose, caribou and mountain sheep are well chosen, and with such modifications as will naturally suggest themselves, the different species named ought to do well.

"I have suggested to the Director that, in view of the considerable range allotted on the plans to the bison, and the habits of the antelope and the bison, it might be practicable to enclose the prong-horned antelope with them for a portion, at least, of the year. It is not likely that for a long time the herd of bison will be very numerous, and I am disposed to think that the antelope might well range with them, since we know that in the old days of buffalo plenty on the plains these two species associated closely with one another, the antelope feeding in the midst of the herds of buffalo, and the buffalo paying no regard to their presence.

"If it should be deemed wise to make this change, the tract now marked on the plans as antelope range might advantageously be used for a summer range for the tropical ruminants, or some of them whose pens are adjacent to this tract.

"In the cases of several species of the North American ruminants I believe that while the ranges selected for them are excellent, they may be greatly improved by a little artificial work. Such species as the bison, the elk, the mule deer, and, of course, the mountain sheep, frequent—when it is possible—rough and broken ground, and are very much disposed to climb up to high points of rocky hills or ledges, where they stand or lie and look over the country. I have suggested to the Director that in the ranges assigned to the species named, great piles of large rocks should be erected, which I believe these animals would use in this way, and which would undoubtedly contribute greatly to their health and would tend to keep them in

good condition. The first and most serious difficulty met with in caring for captive animals is to give them sufficient exercise, and if they can be induced to move about, and especially to climb and descend steep acclivities, the prospects for their health and well-being will be greatly increased. Such rocks would be used also as scratching places, and in this way would contribute to the animal's comfort.

"I have elaborated this idea to the Director, and have suggested how such erections may be made not only without marring the landscape, but may even be made to add to its picturesqueness.

"It is, of course, well known that the hoofs of the ungulates grow more or less to compensate for the wear to which they are subjected in a state of nature, and in the case of certain species which travel over rocky or gravelly ground, this wear is considerable, and the growth of the hoof correspondingly rapid. It is evident that the hoofs of animals confined in pens, or in limited ranges where the soil is soft, will not be subjected to this wear, and yet their growth continues. Provision must therefore be made for an artificial wearing down of the hoof, or the animal's feet must be pared from time to time. The great amount of rock and stone now on the ground allotted to the Society will make it an easy matter to build, within and close to the fences confining each species of ruminants, a walk of rough broken stone which will be of the greatest value in keeping the animals' feet in good condition.

"The locality selected for the dens of the bears is admirable, and I am inclined to approve that chosen for the wolves and foxes. It may be necessary, however, to plant a line of evergreens west of these dens.

"I heartily approve of the location of the beaver pond, and have suggested to the Director a mode of treating it which I believe will be greatly for the benefit of any animals that may be confined there.

"As yet I am somewhat in doubt as to how to treat the accommodations for the squirrels and other gnawing animals. It is quite obvious, however, that it will prove impracticable to furnish the squirrels with permanently living trees in their enclosures, unless these enclosures shall be moved from time to time. In other words, if the number of squirrels using any tree is large, in the course of a comparatively short time the animals will kill the tree. It will probably be better, therefore, for the Society to provide living trees for the groups of squirrels and to accept the fact that they must be killed. After the trees have been killed, the squirrels may be allowed still to live in them.

"The location of the burrowing rodents presents problems that require further investigation, as in many places the rock is so near the surface of the soil that it may well be that artificial burrowing places will have to be prepared for animals such as prairie dogs, woodchucks and other species of like habits." \* \* \* \* \*

After careful deliberation, the Preliminary Plan was approved by the Executive Committee. A city surveyor was employed to make a close topographical survey of the northwestern portion



THE WATERFALL, IN MIDSUMMER,  
PREVIOUS TO RESTORATION.



of the Park, where the most important buildings are to be located, and also to make a complete geographical survey of the entire Park, excepting the few features taken from the official maps.

Every step taken was considered with the utmost care. During the progress of the work, the Committee sought the advice and assistance of a number of gentlemen possessed of technical knowledge of value to the work in hand. Regarding the main court, Mr. Thomas Hastings, of Carrere & Hastings, was consulted; on engineering, Mr. W. Barclay Parsons, of the Rapid Transit Commission; on the general landscape development, the late Park Commissioner, William A. Stiles. Professor Chas. S. Sargent, of Harvard University, also accepted a place on this Advisory Committee, but was subsequently prevented from serving.

Messrs. Heins & LaFarge were appointed Architects, and commissioned to develop especially the architectural and landscape features of the main court and its main approaches. Mr. Charles N. Lowrie, who has had considerable experience in the public parks, was regularly employed for the landscape treatment of the portions outlying the main court. The Director coöperated in and partly supervised all this work, so that the scientific and practical requirements should be met at every point. All the plans were developed under the supervision of the Executive Committee, whose decision on all points in dispute was accepted as final.

Upon the special features of the buildings for animals, and the general plan, Mr. Arthur E. Brown, Superintendent of the Zoological Garden of Philadelphia, Mr. Carl Hagenbeck, of Hamburg, Dr. J. A. Allen, of the American Museum of Natural History, and Professor D. G. Elliot, of the Field Columbian Museum, Chicago, were consulted, and kindly gave their valuable time and advice. We are greatly indebted to these gentlemen for their suggestions, which have been duly considered in the preparation of the plans.

After several months of labor, the "*Final Plan of the Zoological Park*" was completed, drawn in duplicate, signed by the President and all the other members of the Executive Committee, and on November 15th it was laid before the Board of Parks for approval. With it the Society presented a communication setting forth the care and labor that had been bestowed up-



on its preparation, and a memorandum stating the principles which had guided the Society throughout, together with the following :

1. The final plan of the Zoological Park, showing the location of buildings, ranges, dens and other enclosures for animals ; its lakes and ponds, entrances, walks, roads and pleasure grounds.
2. A colored bird's-eye view of the Zoological Park, as it will appear when its development is complete.
3. A map showing how it is possible to introduce an auto-motor or horseless-carriage service over a narrow roadway, without detriment to the Park.
4. Preliminary plans for nine of the most important buildings. These are subject to such alterations in details as may be found advisable.
5. A map showing the contour lines of the topographical survey of the western portion of the Park, as made by William H. Grant, in 1873, for the Department of Parks.
6. The Society's topographical model of the Zoological Park, to be placed at the disposal of the Board of Parks, if it is desired.

The explanatory memorandum is as follows :—

MEMORANDA OF THE FUNDAMENTAL PRINCIPLES OBSERVED BY  
THE ZOOLOGICAL SOCIETY IN PLANNING THE  
ZOOLOGICAL PARK.

The fundamental principles which the Zoological Society has observed in discharging its duty toward the City of New York and the general public in the planning and the development of the Zoological Park, may be briefly formulated as follows:—

1. The Zoological Park must be established on lines by which it can be made a complete zoological success, and also satisfactory and beneficial to the public.
2. The very valuable tract of park land assigned to the Society's use as a site must not be injured in any way, either permanently or temporarily, but must at all times be regarded as a sacred trust.
3. The public is entitled to the use of the picturesque area along the Bronx River, below the Boston Road bridge, as pleasure grounds only, which shall be kept open at all times, subject to suitable regulations. On that area no animal collections are at present to be installed.

4. Even of the area devoted to animal collections, the choice landscapes are to be preserved unharmed, by locating all the large closed buildings so that they will be unobtrusive, especially from the boundary boulevards.

5. In selecting suitable locations for the numerous collections of creatures that will be required to live in the open air all the year round, it is of paramount importance that such animals should have all the advantages that are available in the nature of shade, shelter from westerly winds, dry situations, etc., in order that they may survive as long as possible.

6. So far as it be possible, it is extremely desirable that all animals living in the open air should be so installed that their surroundings will suggest, even if not closely resemble, their natural haunts.

7. The fences for large animals in open ranges shall be of the lightest description consistent with the proper confinement of the animals, and all posts used shall be as unobtrusive as possible.

8. As far as possible, the general aspect of wildness which now characterizes South Bronx Park, must be maintained. In other words, it is desirable that the Park should be maintained as a well-kept and accessible natural wilderness rather than as a conventional city park.

9. It is totally inexpedient and undesirable to have the area of the animals bisected in either direction by a carriage roadway, other than that projected to lead to the principal restaurant.

10. A single-track road for horseless carriages, so laid out as to reach the principal buildings and collections, but without interfering with pedestrians, is not objectionable, and will probably become necessary.

11. In order to protect and control the Zoological Park, the area for the animals, west of the Boston Road, must be entirely surrounded by a light wire fence, save on the north side, where the water forms a natural barrier.

On November 22nd the Board of Parks, by a unanimous vote; passed a resolution approving the Final Plan, accepted it for the City, and later affixed upon the Society's copy their official signatures. The Executive Committee has directed that this plan be forthwith engraved and printed in colors, and included in this Annual Report.

#### DIRECTOR'S REPORT.

Concerning the duties discharged by him during the year 1897, the Director has submitted a report, from which the following quotations may be made:

"It was the special duty of the Director to plan and sharply define the accommodations to be provided for the living mammals, birds and reptiles soon to be installed, and to make them accessible to visitors. Inasmuch as the whole zoological arrangement

has been dictated by the ground itself, many very puzzling questions arose, and it would require more space than is now available to convey an adequate idea of the effort that has been expended by the Society in perfecting the Final Plan. Both the architects and the landscape gardener were limited in their work by conditions which, though unusual, and often unwelcome, are of vital importance to a successful zoological park.

"Our Final Plan is believed to locate each species as nearly as possible where nature would design to have it placed, to absolutely avoid all disfigurement of the site, to make the most of the shade which nature has provided, to enable the visitor to see the whole series of collections with the least possible amount of walking, to yield the greatest return for the money that is to be expended, and last, but not least, to yield something that is hardly to be found to an equal degree in any smaller zoological garden or park—a logical and fairly symmetrical zoological arrangement.

"In the preparation of the plans for the buildings to be erected in the Zoological Park, the Director was required to furnish to the Architects a series of preliminary ground plans, and the details of such other scientific features as cage arrangement, and general assignment of space. In this connection it is a pleasure to acknowledge the assistance that has been derived from certain European zoological gardens whose buildings have furnished points that have been incorporated in our own.

"The plan of our Lion House contains several ideas drawn from the admirable London Lion House, but with one noteworthy improvement, by means of which the out-door and in-door cages are provided with free communication. The plan of our Elephant House contains features derived from the well-nigh perfect "Palais des Hippopotames" in Antwerp. Our Antelope House contains many ideas borrowed from that in Frankfort. Our Reptile House copies several features from that in the London Garden, but many of its most important features are original.

"Our Bird House, Monkey House, Sub-tropical House, Small Mammals' House, Winter House for Birds, Administration Building, Bear Dens, Wolf and Fox Dens, Alligators' Pools, Burrowing Rodents' Quarters, Squirrel installations, Beaver Pond and Aquatic Rodents' Ponds, all are features absolutely new, both in design and general arrangement."



"THE FOREST PRIMEVAL."  
A TYPICAL FOREST VIEW IN THE ZOOLOGICAL PARK.



## PUBLICATIONS.

In order to keep the members of the Society fully informed of the progress of the organization and its work, early in 1897 the Committee decided to issue at intervals a *News Bulletin of the Zoological Society*. An edition of 5,000 copies of the first number was issued on June 1st, and a similar edition of the second number on October 1st. Besides the distribution to members, these bulletins were widely distributed, with invitations to join the Society, and further its work. As a result, nearly 400 persons forwarded applications for membership, and were duly elected. The *Bulletin* will appear at least three times a year, illustrated by photographs of the plans, and including popular articles on the Park and on zoological subjects.

## MEMBERSHIP.

Since March 15th, 1897, the day of issue of our first Annual Report, the membership of the Society has risen from 30 Life Members and 88 Annual Members to 13 Founders, 6 Associate Founders, 21 Patrons, 69 Life Members, and 491 Annual Members, making a total of 600. Inasmuch as the establishment of the Zoological Park is now assured, it is necessary that the annual membership roll should contain the names of several thousand persons. The rolls of some of the foreign zoological societies are approximately as follows:—

London,	-	-	-	-	3,027
Antwerp,	-	-	-	-	5,000
Amsterdam,	-	-	-	-	5,000

The annual income from the membership dues will afford the principal means of purchasing animals, and replenishing the losses by death, while large donations will be devoted to the erection of buildings. The proposed Zoological Park undoubtedly will yield as much pleasure and benefit to the people of this City as either of our great museums or parks, and should enlist the interest and strong support of people of all classes. We are much gratified to note that many ladies have joined the Society, as well as a large number of young people, both as annual members and life members. It is also encouraging to find on the member-

ship rolls the names of many non-residents, representing New Jersey, Connecticut, Rhode Island, Massachusetts and various cities in this state. The Committee invites the members of the Society to disseminate among their friends information as to the educational as well as recreational advantages of the Park. In order to carry out our plans on a scale worthy of this City, the Society should enroll at least 3,000 annual members.

#### SUBSCRIPTIONS TO THE PARK FUND.

Immediately after the action of the Sinking Fund Commissioners, the Executive Committee began the work of raising the Society's promised fund of \$250,000 for buildings and collections. At first the subscription list progressed slowly, but owing to the active interest of several members of the Board of Managers it has recently made rapid advances. In behalf of the Society, the Committee desires to gratefully acknowledge the gifts to the Park which have come from the following persons :

OSWALD OTTENDORFER, . . . . .	\$ 5,000.00
PERCY R. PYNE, . . . . .	5,000.00
WILLIAM K. VANDERBILT, . . . . .	5,000.00
LEVI P. MORTON, . . . . .	5,000.00
WILLIAM E. DODGE, . . . . .	5,000.00
ROBERT GOELET, . . . . .	5,000.00
J. PIERPONT MORGAN, . . . . .	5,000.00
JACOB H. SCHIFF, . . . . .	5,000.00
WILLIAM D. SLOANE, . . . . .	5,000.00
WILLIAM C. WHITNEY, . . . . .	5,000.00
C. P. HUNTINGTON, . . . . .	5,000.00
HENRY A. C. TAYLOR, . . . . .	5,000.00
GEORGE J. GOULD, . . . . .	5,000.00
JOHN L. CADWALADER, . . . . .	2,700.00
JOHN S. BARNES, . . . . .	2,500.00
PHILIP SCHUYLER, . . . . .	2,500.00
F. AUGUSTUS SCHERMERHORN, . . . . .	2,500.00
TIFFANY & CO., . . . . .	2,500.00
MORRIS K. JESUP, . . . . .	2,500.00
HENRY F. OSBORN, . . . . .	1,000.00
A. NEWBOLD MORRIS, . . . . .	1,000.00
EDWARD J. BERWIND, . . . . .	1,000.00
WILLIAM H. WEBB, . . . . .	1,000.00
CHARLES T. BARNEY, . . . . .	1,000.00
SAMUEL THORNE, . . . . .	1,000.00
MRS. WILLIAM H. OSBORN, . . . . .	1,000.00

HENRY W. POOR, . . . . .	1,000.00
GEORGE CROCKER, . . . . .	1,000.00
CHARLES W. HARKNESS, . . . . .	1,000.00
GEORGE T. BLISS, . . . . .	1,000.00
WM. C. SCHERMERHORN, . . . . .	1,000.00
J. HOWARD FORD, . . . . .	1,000.00
WM. C. OSBORN, . . . . .	1,000.00
ABRAM S. HEWITT, . . . . .	1,000.00
MRS. JOHN B. TREVOR, . . . . .	1,000.00
H. MCK. TWOMBLY, . . . . .	1,000.00
JAMES C. CARTER, . . . . .	1,000.00
HENRY O. HAVEMEYER, . . . . .	1,000.00
HENRY H. COOK, . . . . .	1,000.00
GEORGE F. BAKER, . . . . .	1,000.00
WALTER H. BURNS, . . . . .	500.00
EUGENE G. BLACKFORD, . . . . .	500.00
JAMES H. HIGGINSON, . . . . .	500.00
SAMUEL D. BABCOCK, . . . . .	500.00
WOODBURY G. LANGDON, . . . . .	250.00
CASH, . . . . .	100.00

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\$ 103,550

To the above list we might, with entire propriety, add the names of all the life members of the Society, for the reason that thus far all the funds received from them in life-membership fees have been devoted to advancing the plans for the Zoological Park. But precisely the same condition exists regarding the entire list of annual members, and their payments; and therefore reference must be made to the complete lists published elsewhere in connection with this report.

As already announced, the Building Fund will be devoted to the construction of the most essential buildings of the Park, particularly to such as are necessary for the care of a fine series of North American animals, while the remaining subscriptions will be devoted to the erection of some of the permanent tropical houses.

To show why a large building fund is required, we submit the following brief enumeration of the structures to be erected and filled with collections. We also invite the attention and consideration of our friends to the preliminary plans of these buildings, many of which will constitute highly attractive individual gifts to the Park, ranging from \$1,000 to \$75,000 in probable cost.



## THE LARGER BUILDINGS.

**THE LION HOUSE.**—Extreme length, 263 feet; extreme width, 87 feet. The outdoor cages have an extreme width of 45 feet, and a total length of 200 feet. There are 12 inside and 9 outside cages, the largest of the latter measuring 39x43 feet.

**THE MONKEY HOUSE.**—Total length, 160 feet; width of building, 55 feet; and with outdoor cages, 77 feet. There are 32 inside cages, and 11 without.

**THE BIRD HOUSE.**—A T-shaped building, of which one section measures 50x100 feet, the other 46x96 feet. Within there are 330 lineal feet of cages, and 332 feet without.

**THE ELEPHANT HOUSE.**—An imposing structure, 78x144 feet, with 8 paved yards attached, swimming tanks, etc.

**THE ANTELOPE HOUSE** (for tropical ruminants).—Length, 112 feet; width, 78 feet. There will be 19 large compartments, connecting with shaded yards outside. This building must accommodate the large pachyderms until the Elephant House is erected.

**THE REPTILE HOUSE.**—One hundred and forty-five feet long, and 94 feet wide. At one end there will be a conservatory, and at the other a house and yards for tortoises.

**SUB-TROPICAL HOUSE.**—This building is chiefly for large marsupials and birds of the southern hemisphere. Length, 78 feet; width, 53 feet; all cages to connect with outside yards.

**SMALL MAMMALS' HOUSE.**—One hundred feet long, 50 feet wide. This building will accommodate the extensive assortment of miscellaneous species that cannot be installed in separate groups.

**ADMINISTRATION BUILDING.**—Fifty feet square and three stories in height; to contain the offices, library, picture gallery, and studios for artists and students at work in the Park.

## BUILDINGS AND OTHER STRUCTURES OF A LESS COSTLY CHARACTER.

**THE FLYING CAGE.**—A huge cage, 150 feet long, 75 feet wide and 50 feet high, for large and showy Herodiones, flamingoes and other birds.

**WINTER HOUSE FOR BIRDS.**—A glass-roofed house, 66 feet long and 52 feet wide, to serve as winter quarters for the birds of the Flying Cage, and many others.

**THE BUFFALO HOUSE.**—A low, hill-side barn of rough stone, to be used as a shelter in winter.

**THE EAGLES' AND VULTURES' AVIARY.**—A series of immense out-door cages, aggregating 220 feet in length. Greatest height, 30 feet.

**THE CRANES' AND STORKS' AVIARY.**—A series of yards, with low and narrow shelter house, 100 feet long.

**THE PHEASANTS' AVIARY.**—Ten wire-covered run-ways, with a low and narrow shelter house, 150 feet long.

**THE WOLF AND FOX DENS.**—A series of out-door enclosures with dry and warm shelter dens attached; in all about 200 feet long.

**THE BEAR DENS.**—A series of enclosures and shelter dens aggregating about 300 feet in length.



THE ROCKING STONE.



THE SEA-LIONS' POOL AND ROCKS.—A large and deep tank of concrete, with a hill of rock attached, providing shelter dens.

INEXPENSIVE INSTALLATIONS.

THE BEAVER POND.—The beavers will be required to build all the necessary dams for their ponds, all their canals, save one, and also their houses for winter use. A strong iron fence three feet in height will surround about two acres of land and water.

THE OTTERS' POOL.

THE DUCKS' AVIARY.

THE UPLAND GAME BIRDS' AVIARY.

THE CROCODILE POOL.

THE SQUIRRELS' ENCLOSURES.

THE BURROWING RODENTS' ENCLOSURES.

THE PRAIRIE-DOG VILLAGE.

THE WOODCHUCKS' ENCLOSURE.

Shelter barns or sheds must be provided for each of the following herds:

ELK, MOOSE, CARIBOU, MULE DEER, VIRGINIA DEER, RED DEER, ANTELOPE, FALLOW DEER, PECCARY AND WILD BOAR.

PRESERVATION OF WILD ANIMALS.

The following resolution was adopted at the annual meeting, January 11, 1898:

WHEREAS, The investigations of the New York Zoological Society have revealed the fact that over all save a very small portion of the United States our large mammals, our game birds, birds of prey, song birds and the so-called plume birds are disappearing at an alarming rate, and that existing measures are by no means adequate for their preservation from extinction, and

WHEREAS, The preservation of our native animals is one of the avowed purposes for which this Society was created, now, therefore, be it

RESOLVED, That the Executive Committee of this Society be requested to take such active measures as it may deem best to inform the public of the great decrease in animal life, to stimulate public sentiment in favor of better protection, and to co-operate with other scientific bodies, and with the press, in efforts calculated to secure the perpetual preservation of our higher vertebrates from the extinction which now threatens so many species.

The investigations referred to were those carried on by the Director. They demonstrate a most alarmingly rapid decrease in our beautiful native bird fauna, as fully set forth in the appended report. We should take active measures of our own, and co-operate with the Audubon and other Societies to arouse a public sentiment towards the preservation of all forms of bird life.

## ANIMAL PAINTING AND SCULPTURE.

It is of the utmost importance to American painting and sculpture that every facility should be offered by the Society to those desiring to work from life. Extensive inquiry has developed the fact that there are many young artists and sculptors who only require encouragement, proper facilities for their work, and opportunities for exhibition in order to establish a school of animal painting and sculpture which shall be worthy of this city and country. Provisions for studios have been made in the plans of several of our buildings, especially in the Lion House, where it will be possible to transfer cages containing any of the exhibition types. In matters pertaining to the provisions to be made for artists, the Society has frequently consulted Mr. Ernest Seton Thompson, the well-known delineator of American birds and mammals, from whom an interesting communication on "A School for Animal Painting and Sculpture," appears in connection with this report.

The Society has decided to systematically foster both the painting and sculpture of animals. Last June the Executive Committee decided to make arrangements for an exhibition of animal paintings, to be held in December, 1897, but subsequently the date was deferred to February or March, 1898. Unfortunately many months were lost in an effort to secure the advice and co-operation of the Fine Arts Federation, and it is now doubtful whether it is possible to prepare a successful exhibition before next November.

In this connection we may note that a beautiful design for the Society's seal has been modelled by Mr. Charles R. Knight, and will appear upon future documents. A certificate of membership, engraved by Tiffany & Co., will be issued to members who desire it, during the present month. The certificate bears a figure of our most characteristic American mammal, the Prong-horned Antelope, drawn by another of our animal artists, Mr. Carl Rungius. The Society is indebted to Mr. Rudolph Kersting for a large number of photographs showing the present condition of Bronx Park, several of which are reproduced in this volume.

## RECEIPTS AND EXPENDITURES.

Our total receipts for the year 1897 were \$47,191.01, divided into \$33,211.58 for the Park Improvement Fund, and \$13,979.43

for the General Fund. It will be understood that all the latter fund is practically devoted to the improvement of the Zoological Park, as the chief expenditures are for the work of the Director, Architects and Surveyors upon the Plans. Our expenses have been much reduced by the generous and gratuitous services of several members of the Board in legal and official work, especially by our counsel, Mr. John L. Cadwalader, and by Mr. Madison Grant.

Respectfully submitted,

HENRY F. OSBORN, Chairman.

MADISON GRANT, Secretary.

## FORM OF BEQUEST.

*I do hereby give and bequeath to the "NEW YORK ZOOLOGICAL SOCIETY," of the City of New York,* .....

.....

.....

## TREASURER'S

For the Year ending

RECEIPTS.	
Annual dues from 399 members . . . . .	\$ 3,990.00
Life membership fees, 49 @ \$200 . . . . .	9,800.00
Founders' fees:	
From Oswald Ottendorfer . . . . .	5,000.00
" Percy R. Pyne* . . . . .	2,000.00
" William E. Dodge . . . . .	5,000.00
" J. Pierpont Morgan . . . . .	5,000.00
" Jacob H. Schiff* . . . . .	1,000.00
Associate Founders' fees:	
From John L. Cadwalader . . . . .	2,500.00
" F. Augustus Schermerhorn . . . . .	2,500.00
" Philip Schuyler* . . . . .	1,150.00
Patrons' fees:	
From Henry F. Osborn, balance . . . . .	800.00
" Virginia R. Osborn . . . . .	1,000.00
" William H. Webb . . . . .	1,000.00
" A. Newbold Morris . . . . .	1,000.00
" Samuel Thorne . . . . .	1,000.00
" C. P. Huntington . . . . .	1,000.00
" George Crocker . . . . .	1,000.00
" George T. Bliss . . . . .	1,000.00
Subscription to building fund:	
From Walter H. Burns . . . . .	500.00
Harper Brothers, for article written by Mr. Hornaday . . . . .	28.00
Interest on deposits, Atlantic Trust Company . . . . .	232.11
	46,500.11
Add balance in Treasury, Jan. 4, 1897 . . . . .	690.90
	47,191.01

Atlantic Trust Company, 39 William Street,  
January 5, 1898.

\*Balance of subscription paid in full since January 1.

# STATEMENT

December 31, 1897.

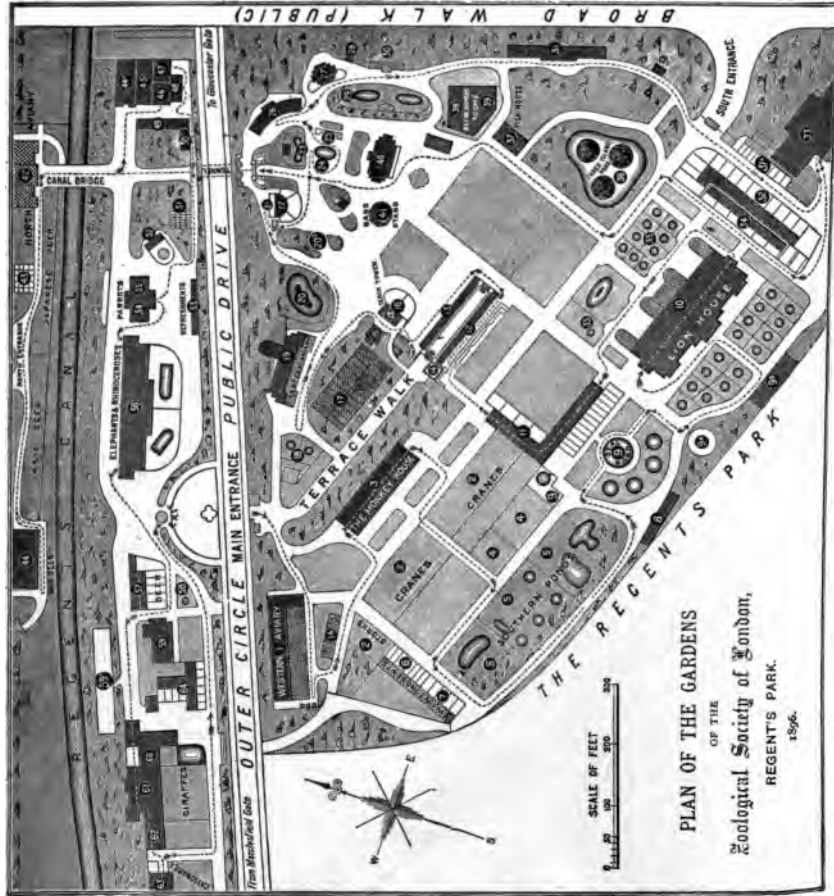
EXPENDITURES.	
Stationery and office supplies . . . . .	\$ 212.58
Office furniture . . . . .	15.75
Office rent . . . . .	300.00
Material for maps and plans . . . . .	8.40
Cost of Annual Report and Bulletin . . . . .	650.69
Photographs, prints, albums, slides for lectures, etc.	176.31
Engrossing and drawing . . . . .	23.50
Architectural drawings . . . . .	951.28
Topographical and other surveys . . . . .	465.00
Stenographic work and typewriting . . . . .	306.17
Circulars and envelopes . . . . .	70.30
Press clippings . . . . .	15.51
Seal and die . . . . .	115.00
District messenger service . . . . .	38.91
Salary of Director . . . . .	4,999.93
Clerical and other services . . . . .	271.50
General expenses, including petty cash, disbursed by the Director, for office and other expenses . .	707.52
	<hr/> 9,328.35
Cash balance in treasury (in Atlantic Trust Company) December 31, 1897 :	
At credit of general account . . . . .	4,651.08
" " " Park Improvement Fund . . . .	33,211.58
	<hr/> 37,862.66
	<hr/> 47,191.01

Respectfully submitted,

L. V. F. RANDOLPH, Treasurer.



1. The Western Aviary
2. The Crane Cages
3. The Monkey House
4. The Kangaroo Paddock
5. The Southern Ponds
6. The Reptile House
7. The Rabbit House
8. The Sheep House
9. The Sealions' Ponds
- 9a. The Sheep-yard
- 9b. The Wolves' and Foxes' Pens
10. The Lion House
11. The Antelope House
- 12, 13. The Hyenas' and Bears' Pens
14. The Bear Pit
15. The Eagle-Owl's Aviary
16. The Owl's Aviary
17. The Night-Herons' Aviary
18. The Pelicans' Inclosure
19. The Eastern Aviary
20. The Northern Pond
- 20a. The Barbary-Sheep Yard
21. The Owl's Cages
22. The Llamas' House
23. The Mandarin Ducks' Pond
24. The Otters' Cages
25. The Kites' Aviary
26. The Giraffe House
- 27, 28. The Small Mammals' House
29. The Gargoyles' Ponds
30. The Racoon's Cages
31. The Vulture's Aviary



- 31a. The Peacocks' Aviary
32. The Wapiti-Deer House
33. The Reptile House
34. The Otter House
35. The Duck Ponds
36. The Three-Island Pond
37. The Peahen House
- 38, 39. The Refreshment Rooms
40. The Eagle's Aviary
41. The Barnyard
42. The Northern Aviary
43. The Tortoise House
44. The Lamb House
- 44a. The Small Owl's House
45. The Lark House
46. The Sticks' House
47. The Ape's House
- 48, 49. The Kangaroo Sheds
50. The Wombat's House
51. The Bush-Turkeys' Inclosure
52. The Marksmen's House
53. The Refreshment Hall
- 54, 55. The Parrot House
56. The Elephant House
57. The Deer House
58. The Beaver Pond
59. The Superintendent's Office
- 59a. The Moose Yard
60. The Hippopotamus House
61. The Giraffe House
62. The Zebra House
63. The Camoosie House
64. The Gnu's Sheds

## THE LONDON ZOOLOGICAL SOCIETY AND ITS GARDENS.—AN OBJECT LESSON FOR NEW YORK.

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BY WILLIAM T. HORNADAY.

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The evolution of every American city proceeds on a uniform plan. Immutable laws demand, in regular order, a supply of dwellings, schools, churches, business blocks, water, sewerage, pavements, police and fire protection. These are the essentials of life in a municipality. Next in order come high schools, colleges, libraries, hospitals and universities. The next stage witnesses the rise of the park system, the scientific museum, the art gallery, and the zoological garden, in the order named. Of all municipal institutions, the last effort is the zoological garden, or park; and it is the high-water mark of civilization and progress.

During the last twenty years, nearly a score of American cities have become aroused to the necessity of purchasing generous areas of land for park purposes, before the march of improvements should seriously interfere with the development of broad and liberal plans. Cities of the second and third class have bought hundreds of acres, and cities of the first class have bought in thousands. In 1888-9 Washington acquired 1,500 acres; in 1884 New York purchased 4,000 choice acres in the Annexed District alone, and in 1894 Boston acquired a still broader domain of 6,000 acres. To-day the American city which does not own a generous area of unimproved, or half-improved, park land, which has been acquired during recent years, is an exception.

All this has to do with our subject, and touches the matter in hand. Give a progressive American city an abundant area of park land, and the step to a zoological garden is a natural one. As our beautiful American quadrupeds and birds disappear, interest in them, and a general desire to know them better *and to preserve them*, increases day by day. At this moment the cities of New York, Washington, Pittsburg, Providence, Buffalo, Rochester and San Francisco are at work on the zoological-garden problem, each endeavoring to solve it according to its individual

needs. Of the cities enumerated, it is feared that some are seeking success without the light of experience, and without comprehensive plans for the future.

It is folly to found a zoological garden without a most carefully studied general plan. It is unbusinesslike to plan and execute costly permanent improvements without the closest study of what has been done elsewhere in zoological garden development, and without the constant direction of a specialist. No architect, however expert in general work, can, from his inner consciousness, plan and erect a lion house, a monkey house, an aviary, or even a deer barn that will be perfectly adapted to the wants of its inmates. It would be quite as wise to build and equip an observatory without the co-operation of an astronomer as to ignore zoological garden experts and experience in the creation of a zoological garden. No matter what the line, money will always purchase expert advice, and if all American sources should fail, let it be borne in mind that there are specialists abroad, among them Carl Hagenbeck, of Hamburg, who are competent to advise on all questions involved.

The time was when nearly every feature of a zoological garden was an experiment, with perfection to be determined by trial. That situation exists no longer. There are now hundreds of fixed scientific facts to be learned by proper effort, which, when secured and utilized, mean two things of vital importance—economy and success. Let those who are inclined to build blindly beware; for the pitfalls are many. The cost of experience, when extracted from the raw material, is always great. To those who would found successfully in this line, we offer, as a useful object lesson, the London Zoological Society and its Gardens. Between it and the zoological gardens of Antwerp, Rotterdam, Amsterdam, Berlin, Hamburg, Hanover, Frankfort, Cologne—it is impossible to name all—each of which now rises before us like a beautiful vision, it is difficult to choose. One feature, however, strongly impels the choice of the London institution, and that is, its commanding importance in the scientific world. There are other societies whose gardens contain more costly buildings, and more extensive and beautiful grounds, but there are none which have finer or more extensive collections, none which have yielded a greater store of useful zoological knowledge.

The reasons for this are by no means obscure. England is a

colonial nation. Her flag waves around the world, and on more parallels of latitude than the flag of any other country. She has consuls in all countries, all of whom are well paid. English sportsmen, travellers and men of science go everywhere; and an Englishman who does not take an intelligent interest in the animal life of the world is a rarity fit for a museum. Every Englishman is proud of his great London "Zoo," and when he meets with an opportunity to add a rarity to its world-famous collections, he gladly embraces it.\* Throughout the British Empire, there is no member of the royal family, or the nobility, no colonial officer nor native prince who does not feel proud to present fine animals to the London "Zoo." Last year the list of the 268 persons who donated 575 living creatures, was headed by "H. M. The Queen," who presented "One Lion," and "H. R. H. The Duke of Connaught," who gave another. The gifts of the year 1895-6—which were no more numerous than those of other years—were, of themselves alone, enough to stock a zoological garden of the third class. The list of gifts fill thirteen pages of the Report. There are chimpanzees, baboons, macaques and lemurs; polar bears, leopards, foxes, wolves and jackals; there are zebras, deer and river hogs; squirrels, kangaroos, eagles, macaws and other birds in great variety. There are crocodiles, pythons, vipers, lizards, turtles, tortoises, and batrachians in great variety.

As an instance of the pride and interest which Englishmen take in keeping up the collections of this institution, consider "Warsaw," one of the finest tigers ever possessed by the London Gardens. Colonel Stafford, of the Afghan Boundary Commission, found him, caged and stranded at a remote railway station on the eastern shore of the Caspian Sea, without a kopeck with which to pay his fare to Warsaw. He had already come a long journey, from central Turkestan, and the journey from thence to London was little less than appalling. With commendable judgment, Colonel Stafford recognized the fact that a tiger from that northern locality would be a prize—if it could be taken alive to London. He finally purchased it, and despite the length and hardships of the long journey to the Black Sea, and from thence to England, the journey was safely accomplished, and "War-

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\*In some countries it often happens that the first act of a man who acquires a fine animal is to write to the nearest zoological garden, and say, "What will you give me for it?"



FLOWERS AND TREES, IN THE LONDON "ZOO,"  
VIEW FROM MOUTH ENTRANCE, LOOKING NORTH.

saw" landed in the London Zoo, alive and well. There he lived for many years, and besides being the best tempered tiger ever kept in those Gardens, he was also one of the largest and handsomest. In connection with this instance of commendable enterprise in behalf of a zoological specimen, the thought occurs that in such cases the label upon the object might very properly record the fact of the exceptional difficulties which the donor surmounted in securing and transporting his gift. The knowledge of such circumstances means multiplied appreciation on the part of the public.

The Zoological Society of London was founded in 1828, and its Gardens established in Regent's Park, on 30½ acres of land held on a lease from the Office of Woods, at a nominal annual rental. In 1896 the membership of the Society consisted of 3,027 Fellows, of whom 1,880 pay £3 per year, 923 have become Fellows for life by the payment of £30, and 177 are classed as "dormant." The membership fees for the year amounted to the very handsome total of \$37,550.40. The Society owns the building it occupies at No. 3 Hanover Square, valued at £25,000, and its zoological library, which is second to none, is valued at £16,629. The animals in the Gardens are put down at £22,128, and various other properties and "accounts considered good" bring its total assets up to £73,163. The buildings and other improvements in the Gardens are not taken into account in the reckoning. Deducting a paltry £1,210 of liabilities, the salable property of the Society, without any incumbrances, has a net cash value of £71,953, which, reckoned exactly, is the equivalent of \$345,374 of our money.\*

As all zoologists know, Dr. Philip Lutley Sclater is the Secretary and chief executive officer of the Zoological Society and its Gardens. It is now forty years ago that he assumed active management of the affairs of the Society, and to him, it is very safe to say, their present admirable condition is chiefly due. Rarely has it happened in this age of "specialization" that scientific knowledge and business ability have been so perfectly combined in one individual as has proven to be the case in Dr. Sclater. To his judgment, knowledge and industry, these pages are merely

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\*This explains why the New York Zoological Society requires the moral and financial support of 3,000 members. If our Park is to take a position in the front rank of such institutions, it will need fully that number.

an incomplete testimonial. It may be stated without fear of contradiction, that the great work accomplished by the London Zoological Society during the last forty years is largely due to the fact that during that entire period, Dr. Sclater has combined good business methods with high scientific aims and far-reaching zoological knowledge. As might be expected from the opportunities of his position, his own contributions to zoology have been very numerous and important. His published writings, from 1844 to 1896, include 1,287 titles, chiefly relating to birds and mammals exhibited in the Gardens.

The Zoological Society of London gives its members a great deal for their money. Its public functions are three fold. It is an institution of research, of publication, and of popular instruction, and it is of immense value to the public in all three.

Concerning the scientific work of the Society, it is impossible to do more in this paper than to direct attention to the thousands of zoological papers that have been given to the world, richly illustrated by colored plates from the hands of the best zoological artists, in the Society's regular publications. The "Transactions" comprise fourteen stately quarto volumes; the "Proceedings" make sixty-five thick octavos, and without them no zoological library can for one moment be considered complete. If to these volumes of research we add the thirty-one volumes of the "Zoological Record," the total of 110 volumes make a showing which it is believed cannot be matched by any other zoological body or institution in the world. The total cost of the three series of publications is, to the public, \$1,125. It must not be supposed, however, that any scientific society can produce such costly books, and distribute them to its members and to the scientific world gratuitously. Each volume has its fixed price, that "to Fellows" being always about 25% lower than the "price to the public." The Transactions range in price from ten shillings to £15 per volume, and the volumes of Proceedings, which contain colored plates, are now produced at the uniform price of 48 shillings—"to the public."

But the feature which most powerfully appeals to the millions of London, and round which the whole corporate system of the organization may fairly be said to revolve, is the Society's Gardens in Regent's Park.

Strange to say, the Gardens are rather difficult to reach. By

reason of their insular position in Regent's Park, they are touched by no tram cars, and by only one line of omnibuses, although other lines do land the visitor within walking distance of the gates. Of thirteen zoological gardens visited on the Continent, I remember none save the Paris Jardin d'Acclimation with such inadequate means of access as the London institution. For this, however, the Society is in no wise responsible.

If you visit those Gardens in midsummer, when rain is as badly needed as it was in July, 1896, it will seem to you like a green and delightful oasis in a brown woods-pasture.\* Even at its best the upper end of Regents' Park is merely a meadow with a setting of trees; but at all times, save in winter, "The Zoo" is a botanical paradise.

Owing to its limited area, and the great number of its collections, the Gardens are a perfect labyrinth of buildings, aviaries, dens, yards and ponds, laid out in rectangles, because that is the best way to secure the utmost benefit from every square yard of space. A little study of the map will reveal the fact that no attempt has been made to secure a systematic zoological arrangement. In a large garden it is possible to secure a partial systematic arrangement of the collections, but on an area of thirty acres it may be regarded as an absolute impossibility. The other conditions to be satisfied are too numerous and too exacting to admit of it. It is the large hoofed animals that upset one's calculations as to arrangement, both in zoological gardens and in museums.

As you enter the South Gate, from the Broad Walk of Regent's Park, and look straight before you into the heart of the South Garden, you see a fine sweep of velvety green, dotted and hummocked every few feet with beds of brilliant flowers. In the distance appears the Restaurant—a very modest building in comparison with the magnificent and imposing structures that prevail in the gardens of the continent. Low, spreading trees and flowering shrubs form the boundaries of this beauty spot; and truly it is a most charming prospect. As you penetrate farther, you will find flowers everywhere, in lavish richness and profusion, and trees wherever trees ought to be. There are twenty men in the Gardener's Department, and the grounds are

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\*Quite recently the Gardens have secured, by means of an artesian well, an independent water supply of 240,000 gallons per day.





INTERIOR OF THE REPTILE HOUSE.

a fine testimonial to their skill and industry. Beside these thirty-one acres of sylvan beauty, completely walled in by living green, the remainder of Regent's Park seems like a meadow with oak trees—nothing more.

"We are sadly cramped for room," said Dr. Sclater, "and we can grow no more."

"You should have another slice of Regent's Park."

"They will not give us another foot of it," was the reply, in a tone implying absolute certainty.

But the Society might be much worse off than to have thirty-one good, broad acres in a public park, in the heart of London. For a garden that must be supported chiefly by gate receipts, a small site in the heart of a city is better than twice the area in suburb.

As you turn abruptly to the left, you see a long row of square flat-topped, wire-netting enclosures, with a thrifty bush, a square of grass and a graveled border in each. These are labeled "31A. THE PHEASANTS' AVIARIES;" and the careless visitor is ready to say, "That is nothing in particular. Come on." But wait a moment. Look before you, and you will see a gloriously iridescent Impeyan pheasant, or moonal, from the lofty pine-clad slopes of the Himalayas. It takes a man to climb up and kill one, to say nothing of capturing one alive. And here are magnificent Lady Amherst and silver pheasants from the interior of China, the Reeve's pheasant, the golden, the peacock pheasant and an old friend from Borneo, whose relatives the Dyaks often caught for us in their cunning snares, and whose clean, white flesh we have eaten half a dozen times—the argus pheasant. In the jungle he is beautiful beyond compare, with flesh as savory as that of the quail. There are many other pheasant species; but just beyond stands a particularly fine Reptile House, and an equally fine collection of living reptiles.

They call this building "Jumbo's Gift." When the news spread over London that Mr. Barnum had purchased that great and ugly pachyderm, crowds of people, young and old, rushed to the Gardens to feed him one last bun, and bid him a tearful adieu. The Jumbo sentiment netted the Gardens the very neat sum of \$26,400, besides the \$9,000 or so paid by Mr. Barnum for Jumbo himself; and Dr. Sclater took the money and built the Reptile House.

Like most zoological-garden buildings, it is only one story in height, built of red brick, and lighted chiefly from above. Along both ends and one side extend big, roomy cages, with graveled bottoms, bath tanks and tree-trunks for the dozens of huge pythons, boa constrictors, anacondas, cobras, rattlers, iguanas and lizards that inhabit them. The central floor space is partly occupied by large masonry tanks, fringed above with pointed iron bars, containing the crocodilians. Without exception, all the cages are clean, and the occupants seem well fed and comfortable. And, in all conscience, they should, considering what a menagerie of rabbits, ducks, pigeons, rats, mice and what-not, is maintained in the rear yard to furnish food acceptable to the capricious appetites within.

This house is very popular with visitors, and it deserves to be. It affords a fine opportunity to study groups of animals which, to most people, are very imperfectly known; and it is appreciated accordingly. About it there is nothing offensive, and the profusion of palms and hanging baskets gives this building the most charming interior to be found in the whole garden.

Leaving the Reptile House, and looking toward the centre of the Gardens, the visitor's curiosity is awakened by the sight of a large iron structure which looms up above the shrubbery like the lower portion of a modern steel-framed office building, going up on "the American plan." Its vaulted roof of iron bars is supported by four heavy girders, and we wonder at the lavish expenditure of iron so far above a wild beast's range of assault.

A nearer view discloses five huge outdoor cages attached to the Lion House, their high, cemented floors occupied by lions, tigers, leopards and pumas, who ought to be among the happiest of their respective kinds. Each cage is nearly large enough for a croquet ground, and contains two or more groups of rocks and tree-trunks on which the inmates love to lie and bask in the sunlight, and lazily blink at the visitors. Unlike the open-air cages of the continental gardens, these are quite without roofs, or other shelter from the weather.

The Lion House itself is wholly of red brick, unpretentious as to architecture—albeit its aspect is decidedly pleasing—and it is not too much to say that it is one of the best buildings of its kind in Europe. It must be confessed, however, that in one point—the means of communication between the indoor and outdoor cages—



OUTDOOR CAGES OF THE LION HOUSE.

the plan leaves something to be desired. In comparison with what will be necessary to accommodate the crowds that will throng our free Zoological Park, its doors and vestibules are narrow; but for a "pay garden" they seem to be ample. The total length of the building is 240 feet, and its extreme width, 70 feet. Along one side of the great interior hall extend the indoor cages, 14 in number. Six of them are 20 feet wide and 12 feet deep, the remainder are 12 feet square, and at the rear each cage is provided with two



EXTERIOR OF THE LION HOUSE.

warm, well-ventilated sleeping dens. The cage floors are of pitch pine, with a front margin of oak, to afford immunity from moisture—and rheumatism. The diet of every animal is regulated with great judgment and precision to insure no extravagance in the supply, and such weekly variations as the health of the animal absolutely requires. Like all well-regulated lion houses, this is heated by hot water (to secure an even temperature), and in cleanliness and freedom from disagreeable odors it is absolutely beyond the reach of criticism. Either from within or without, in cold weather or in hot, it is a pleasure to look at the well fed and well groomed tenants of this palace of brick, iron and cement.

The collection of large feline animals displayed in this building is certainly second to none.

In 1896 it contained one great rarity, seldom seen in captivity, even in its own land. It was a full-grown ounce, or snow leopard, of the Himalayas and Thibet, a specimen which was as good-tempered as it was beautiful. In contrast with the black leopard in the adjoining cage—a creature with a satanic countenance and diabolical temper—it seemed fairly angelic.



INTERIOR OF THE LION HOUSE.

Whenever you visit a Monkey House, and find within it a score or more of rare and beautiful marmosets, hapales and owl monkeys from South America; of lorises, slow lemurs and flying foxes from the East Indies; a fine collection of lemurs, and the wonderful—and problematical—aye-aye, from Madagascar, you may know that you are in a zoological garden of the first rank; for you will find such rare species as the above in no other kind. As to the big African baboons, the macaques, capuchins, spider monkeys and the like—they are common stock; the others are the “preferred.” As you are about to enter the long, low, many-windowed Monkey House of the London Gardens, you will notice in a cage outside a fine, robust tcheli monkey (*macacus*

*tcheliensis*) from Northern China. He is covered with a dense coat of fur, and so well fitted to withstand winter weather that he lives outside all the year, even when the cold is 10° below zero, and requires to be kept cool rather than warm. Evidently his temper is as warm as his body, for a placard entreats the inquisitive visitor not to irritate him.

Strange to say, the Monkey House does not contain the anthropoid apes. They live in a small wooden building in the Middle Garden, adjoining the Small Cats' House and the Kangaroo Sheds; and having been told the collection contained that rarity of rarities, *a live gorilla*, we hastened thither with all speed, lest the creature should perversely die before we had made good an opportunity to gaze upon its sable countenance. The writer confesses to a feeling of the same kind of excitement that every hunter feels when, after a long and tedious quest, he at last—and for the first time in his life—beholds the object of his pursuit. It was sheer good fortune, and nothing else, that took him to London during the lifetime of that particular gorilla, which is said to be the third specimen ever brought alive to Europe.

Morose and sullen as captive gorillas ever are, this specimen, a half-grown female, crouched on the floor at the rear of her cage, so completely enveloped in a heavy gray blanket that not even a finger-tip was visible. Upon speaking to her, she refused to notice anyone without a formal introduction. At last the keeper of the Ape House, Mr. George Mansbridge, procured an apple, approached the bars, and said, "Here, old lady! Come and get this apple. Come on, now!" In a moment the blanket began to heave, presently it fell aside, and *Troglodytes gorilla* stood revealed.

How black she was! She looked as if she had spent her life in cleaning chimneys. Slowly and grudgingly she waddled down to the front of the cage, unsteadily, like a heavy man traversing the aisle of a moving street-car. Very deliberately she received the apple sections that were offered her by Mr. Mansbridge, and ate them with the air of one who confers a favor. Her protruding stomach suggested inactivity, enlargement of the spleen, indigestion and other ills to which inactive flesh is the natural heir. Apes are just like human beings; those who will not take exercise are the first to die.

In the Ape House there were orang-utans and chimpanzees

in plenty. What interests one much more, however, is the room devoted to the gibbons—the long-armed, “living-skeleton” apes of Borneo, Burmah and Siam, who can, when pursued, almost *fly* through the tree-tops. Going down hill they actually turn summersaults, one after another, catching alternately with their hands and their feet, and flying forward at a tremendous rate. There were three jet black gibbons (from Burmah), two of which were of medium size, while the third was almost a giant of his kind. They perched high in the upper corners of their tall cages, and from below resembled three black imps of darkness.

The keeper spoke to them in their own language, and the response is almost beyond description. The big fellow had a voice like a steam calliope, and he was generous with it.

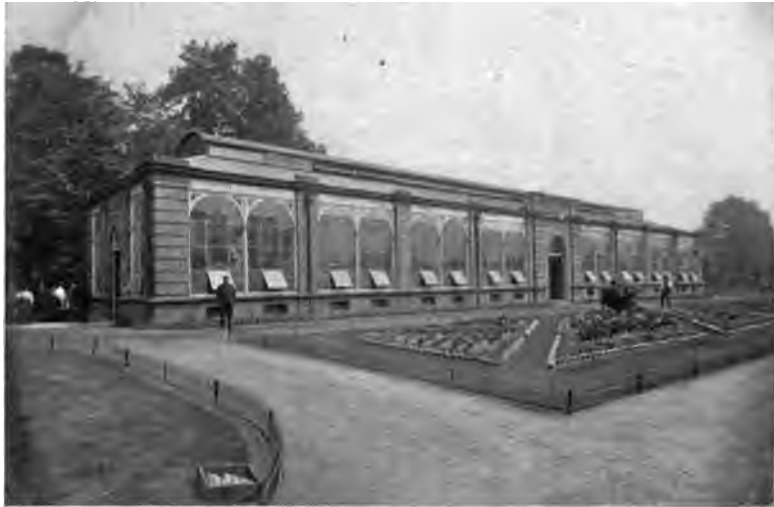
“*Hoo-lock ! hoo-lock ! hoo-lock !*” he cried, over and over ; and his mates answered him until the windows rattled, and our ears rang. Then he paused, made up a most diabolical wry face, drew a long breath, opened his mouth to an enormous stretch, and emitted a prolonged, ear-rasping, falsetto shriek. It was an excellent imitation of the shriek of an European locomotive.

The Small Cats’ House, adjoining the apes’ quarters, is the only building in the Gardens in which there is a pronounced animal odor. Although the cages are kept as clean as water and labor can make them, yet the characteristic feline odor is there. Amongst zoological garden men, it is generally conceded to be practically inseparable from every large collection of small *Felidæ*. For this reason, there are some zoological gardens on the continent from which small cats are absolutely banished. Notwithstanding the admitted impossibility of maintaining a collection of the smaller *Felidæ* on an odorless basis, the group is so large, and to most persons so interesting, it seems that its representatives should be kept. In America, certainly, with its fine array of lynxes, wild cats, “bob” cats and ocelots ; its yaguarundi, eyra, and other forms, their entire absence from a zoological garden which assumes to be reasonably complete, would be quite inexcusable.

By many zoological garden authorities on the Continent, the kangaroo collection and its installation in the London Gardens is said to be the best in existence. And inasmuch as England owns the entire kangaroo fauna of the world (excepting the New Guinea tree-kangaroo), this is quite as it should be. The kanga-



rooms of the London Gardens live in long and rather narrow yards that are enclosed by iron fences, and completely covered by roofs of glass. Along the rear extends a low and unpretentious shelter-house of brick. The yards are always well filled, and the number of species really is surprising. As usual, the kangaroo babies attract more attention than their parents, and one of the drollest sights to be seen in all the Gardens is a patient macropian mother going about her daily work with a long-eared, big-eyed baby—abundantly able to hop alone—looking out of the top of her pouch.

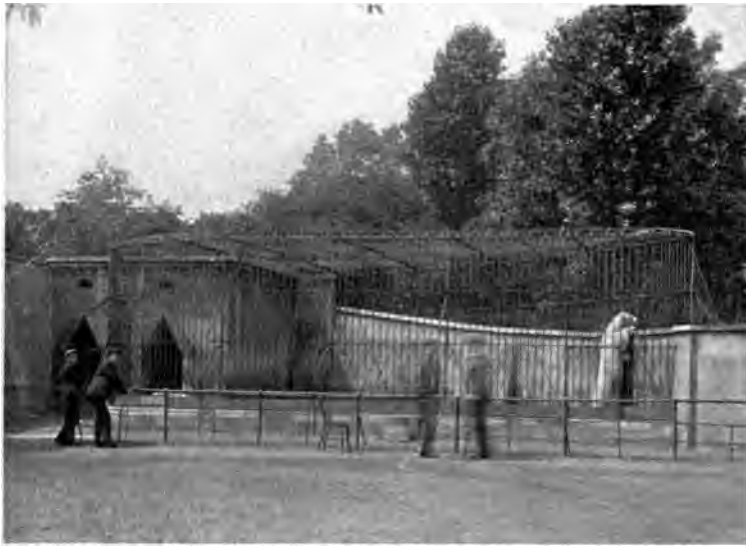


THE MONKEY HOUSE.

The Middle Garden contains the Elephant and Rhinoceros House, but in summer the visitor usually finds those huge pachyderms ponderously marching up and down their well shaded yards, or bathing in the great tanks of brick and cement that have been provided for them. Not far beyond is situated the Giraffe House, never tenantless but for one period of two years, when the supply of giraffes from the Soudan was cut off by the ever-troublesome Madhi. Like the pachyderms, these great beasts never seem so fine, so attractive, and so interesting as when they are stalking about in commodious open yards, in evident enjoyment of the air,

the light and freedom ! And why should they not be happier than any of their congeners in Africa? They are safe from the rifles of the game-killers, hunger and thirst they know only by hearsay, and if they are ill their meals are cheerfully sent to their rooms.

To show the richness of the various collections in this marvelous gathering of living creatures, we may point out that when the new dens for the wolves and foxes were completed, in 1887, the gathering of the *Canidæ* scattered about the Gardens revealed 30 specimens, representing 20 species, from many different parts of the world. The collection of bears seldom contains fewer



THE POLAR BEARS' DEN.

than nine species. The Antelope House is always well stocked with representatives of the most beautiful and conspicuous of the many African species known to science, such as the superbly handsome antelope, the hartebeest, the beisa antelope, the nagor, harnessed and sing-sing antelopes, the gnu, the eland and others.

In the London Gardens it is possible to see a handsome hog. In 1896 one of the compartments of the Swine House was occupied by a red river hog, which really was a beautiful animal. He was of good size and pleasing proportions, and instead of the mean, clam-shaped ears of most hogs, his were thin and spatulate, and

each one tapered into a long, flowing pencil of red hair, which reached back far across his shoulder. His hair was quite abundant, of a brick-red color, and so clean and so bright it seemed as if Nature had bestowed upon him all the color that was denied to his hideously ugly neighbor, the wart hog, and the other Suidæ. Of the Sloth's House, and its admirable collection of sloths, ant eaters, ant bears, armadillos and pengolins; of the collection of bison, buffaloes, gaur and gayal at the Cattle Sheds; of the collection of wild goats and ibexes, from India and elsewhere; of the collection of zebras and wild asses, of deer, and of gazelles, it is impossible to speak in detail.

Nor is it possible to convey, in the remainder of the space available for these notes, an adequate impression of the extent of the bird collections, and the wide range of their contents. The species are so numerous, and their demands in the matter of care are so exacting, imposing effects in aviary construction and arrangement have been sacrificed on the altar of utility. We find here but two aviaries which are in line with the finest structures of the same nature in such gardens as those of Antwerp, Amsterdam, Rotterdam and Berlin. There are the Vultures' Aviary, and what is set down (oddly enough) as the "Night Herons' Aviary." Great is the temptation to call the latter the Flying Cage, and this term will be adopted in the New York Zoological Park. At the precise moment of the writer's visit, a particularly brilliant scarlet ibis was in full flight in its top, at least 30 feet from the ground, flashing like a burst of scarlet flame from one end of the cage to the other (66 feet), wheeling gracefully against the rich green foliage, and sweeping back again. Perching—and also nesting—in the living trees that grew in this mammoth cage were egrets and herons, and also roseate spoonbills; and their graceful evolutions on the wing, back and forth, in the joy of freedom in security, distinctly conveyed the impression that they regarded their cage as a cage in which to fly!

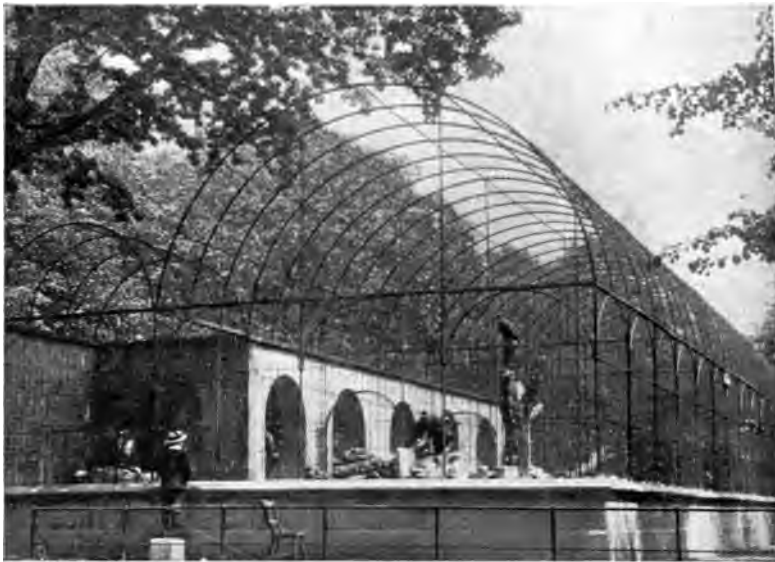
In the centre of the enclosed space—it seems like misnaming to call it a *cage*—was a pool of clear, running water, and a rocky islet, surrounded by banks of velvety grass, clumps of shrubbery, and small trees galore. It was the most charming enclosure for living creatures that the writer had ever seen; and it is to be regretted that its great size and the density of the walls of living green that surround it quite prevent an adequate portrayal of it



THE HERONS' AVIARY.

by photography. Of its living contents, the most conspicuous were the tall and superbly-dignified flamingoes who stalked majestically over the green carpet, and from their lofty stilts looked down disdainfully upon the flock of gulls that paddled in the pool and squabbled over bits of food as if such a feeling as dignity was to them unknown.

On the continent there are two more flying cages of this type, one of which is at Paris, in the Jardin des Plantes—a beautiful structure, architecturally—and the other is to be found at Rot-



THE EAGLES' AVIARY.

terdam. The latter was erected by the late Dr. A. Von Bemmelin, for many years Director of that beautiful Garden. His was the first ever constructed, and so completely is it a part of the forestry of the Garden that wild herons actually build their nests and rear their young in the tree-tops that surround it.

We intend to erect a Flying Cage in our Zoological Park, in a charming spot that nature has prepared for it. To make it as large and as perfect as we wish to make it, and to stock it with the various flocks of showy and beautiful birds which we wish it to contain when the opening day arrives, will cost between \$4,000

and \$5,000. The only question about it is,—will the price be available? From the first \$100,000 of the Building Fund, we fear it can not be taken; but it would constitute an attractive gift.

Frequently is the question asked,—“How many animals are there in the London Gardens?” In April, 1896, there were 768 quadrupeds, 1,267 birds and 334 reptiles, making a total of 2,369 living creatures (fishes and insects not counted), valued at £22,128 (\$106,214.40). Of this number there were born in the Gardens during the previous year, 57 quadrupeds, 76 birds and 8 reptiles. The gifts numbered 575 specimens, the purchases were 192, there were 259 specimens received on deposit, and 136 were obtained in exchange, making a total of 1,303 accessions during the year.

But wild animals do not live forever, even in the best zoological gardens. The total number of deaths during the year was 1,092—rather more than the average. The mortality amongst the *Felidæ* chanced to be unusually heavy, and robbed the Gardens of a tiger, 3 leopards, 2 cheetahs and a puma, besides which there also died a polar bear, a Burchell's zebra, a grysbok, and two male ostriches. And this brings to mind the continuous draught of regret that must be quaffed by the executive officer of every zoological garden. None of his animals are immortal, and, care for them as he may, sooner or later all are bound to die.

During the 70 years of their existence, the London Gardens have contained 770 species of mammals, 1,676 species of birds, and 420 species of reptiles, on exhibition and available for study. The printed “List of Animals” that have lived in the Gardens since 1830 makes two thick octavo volumes of about 650 pages each.

Few persons have had an opportunity to know the extent and curious variety of the bill of fare of the inmates of a large zoological garden. Not only is the variety great, but the amount of food consumed really is astonishing. To satisfy popular curiosity on these points, the Council of the Zoological Society has compiled and published a statement of the provisions consumed in the Gardens by the 2,369 animals living there in 1895-6. The following is the list:

Clover Hay,	113 $\frac{1}{4}$ loads.	Maize,	70 qrs.
Meadow Hay,	131 loads.	Bran,	350 qrs.
Oats,	144 qrs.	Canary,	15 qrs.
Wheat,	43 $\frac{1}{2}$ qrs.	Hemp,	11 $\frac{3}{4}$ qrs.

Rape,	1 qr.	Greens,	37 bush.
Millet,	33 $\frac{1}{4}$ qrs.	Cabbage,	260 doz.
Barley,	28 $\frac{1}{4}$ qrs.	Onions,	3 bush.
Bread,	5,515 qtns.	Watercress,	3,436 bun.
Biscuits,	302 cwt.	Nuts,	33 $\frac{1}{2}$ pks.
Rice,	78 cwt.	Lettuce,	229 doz.
Oil-cake,	56 cwt.	Apples,	138 bush.
Mawseed,	28 cwt.	Pears,	2 $\frac{1}{2}$ bush.
Buckwheat,	6 qrs.	Grapes,	1,156 lbs.
Ground Nuts,	29 cwt.	Dates,	1,395 lbs.
Barley Meal,	3 cwt.	Oranges,	169 hund.
Oatmeal,	2 cwt.	Carrots,	132 cwt.
Milk,	5,120 qts.	Potatoes,	59 cwt.
Goats,	197.	Cherries,	9 boxes.
Flounders,	2,184 lbs.	Marrows,	35 doz.
Whiting,	26,520 lbs.	Eggs,	23,954.
Shrimps,	1,252 qts.	Horses,	200.
Fowl-heads,	7,512.	Bananas,	1,149 doz.
Rough Fish,	9,667 lbs.	Melons,	50 doz.

Like all the zoological gardens of Europe, save the Paris Jardin des Plantes, the London "Zoo," as it is always called by the London public, is a "pay garden," to which there are no



THE KANGAROO YARDS.

free days. Regular admission is a shilling for adults and sixpence for children, but on every Monday the admission is sixpence for everyone. On Sundays the Gardens are closed to all persons save members of the Society and their friends, and those provided with special passes. The privileges of members—or “Fellows” as they are called—are many, but they pay smartly for them. The initiation fee of a member is \$25, and the annual dues are \$15; but the latter may be compounded for life by the payment of either \$100 or \$150, according to circumstances. Members are allowed to take their wives to the Gardens without payment, but there is a limit to the admission of friends.

During the year 1895-6, the Gardens were visited by 665,326 persons. Only twice since 1871 has the annual number of visitors fallen below 600,000, and eight times since that year it has exceeded 700,000. The high-water mark was reached in 1876, the year of the exhibiton of the Prince of Wales' Indian Menagerie, when the turn-stiles clicked for 915,764 visitors. The greatest number of visitors in a single day was 42,000, who came on the August bank holiday of 1876; but 30,000 on a holiday is by no means an unusual number.

To Americans—and to all others who require zoological gardens—the income and expenses of the Zoological Society of London are matters of practical interest. For the year ending April 29th, 1896, the principal items of the former were as follows:

Admission to the Gardens, . . . . .	\$ 75,067.20
Members fees and dues, . . . . .	37,550.40
Income from refreshment privileges, riding animals, and sales, . . . . .	10,233.00
Other items not relating to the Gardens, . . . . .	6,449.96
	<hr/>
	\$ 129,300.56

The total expenditures during the same period on account of the Gardens alone, and leaving out of account the expenditures for the library, publications, rent, taxes and insurance, amounted to \$97,764. It may be stated that, in round numbers, the annual cost of maintaining the London Gardens is \$100,000.

The staff at the Gardens remains, from year to year, about the same. It consists of a Superintendent,\* an Assistant Superintendent (in 1896, Mr. Clarence Bartlett, who is now Superin-

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\*For thirty-eight years this position was filled most acceptably by Mr. A. D. Bartlett, who finally died “in the harness” in May, 1897, only a few months after the author's last visit to the Gardens.



tendent), 1 Head Keeper and 23 Keepers, 3 Money-takers, 1 Store-keeper, 1 Prosecutor's Assistant, 1 Head Gardener, 13 Garden Laborers, 19 Helpers in the Menagerie, 9 Artisans, 7 Painters, 9 Laborers, 2 Butchers, 1 Cook, 2 Firemen, 2 Night Watchmen, 1 Time-Keeper and 2 Messengers, making a total of about 100 persons. The salaries paid (other than those to the Superintendents) are low, as is the case in all European gardens; but faithful employees are retired on pensions when they grow old in the service. A Keeper of skill and experience, in charge of a



RESIDENCE OF SUPERINTENDENT CLARENCE BARTLETT.

large and valuable collection, informed me that he receives thirty shillings per week, (\$7.20.) While this seems like a small sum, the agreeable nature of his duties, the certainty of increased pay with longer service, and of a pension when he becomes too old to work, renders its acceptance desirable. In no institution is continuity of acceptable service more desirable or more necessary to success than in a zoological garden. The testimony of the officers in charge of the institutions at London, Antwerp, Amsterdam and Berlin exactly coincided on these points: (1) Select keepers most carefully, (2) retain the good ones permanently, (3) increase their pay steadily, and (4) pension them off comfort-

ably in old age. The pursuit of this policy yields the maximum of intelligent, faithful and conscientious service.

Any American who visits the great cities of north-western Europe, and fails to see their zoological gardens, robs himself of a great amount of enjoyment. The points of difference between those institutions are so numerous, and the features of surpassing excellence are so thoroughly scattered, each garden has its own individuality, and it is well worth while to see them all. In a picture gallery, the strain upon the eyes, the brain and the body is constant. In a zoological garden, the restfulness of it is equally constant. It is a series of charming dissolving views of foliage and flowers, green grass and placid water, and a constantly changing variety of interesting and beautiful living creatures. If one tires of walking, there is the shady grove, or nook beside the water, inviting one to rest, without the endless procession of vehicles, and the beat of horses' hoofs, which the rest-seeker in Hyde Park, or Central Park, seldom can escape.

As all the world knows, New York City is over-crowded ; and each year the congestion of certain districts becomes more serious. As is always the case in cities, the poorest people are those who suffer most, because it is so very difficult to place within their reach great areas of pure air, and restful woods and waters, at a price which they can afford to pay. Can it be doubted, then, that an undertaking which proposes to make accessible, for a few cents in car-fare, a beautiful natural world in miniature, of forest, stream, lake, meadow and rock, peopled with living creatures, is a philanthropic enterprise of the first magnitude, quite aside from its educational value? We think not ; and when the New York Zoological Park stands as *un fait accompli*, the people of this city will realize that they owe much to the zoologists of London, Berlin, Amsterdam, Antwerp and other European capitals for having developed the peculiar field of scientific enterprise which has given the world the modern zoological garden.



# A SCHOOL OF ANIMAL PAINTING AND SCULPTURE, IN THE NEW YORK ZOOLOGICAL PARK.

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BY ERNEST SETON THOMPSON.

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Presented at the annual meeting of the Society, Jan. 11, 1898.

A London *Times* art critic not long ago hurled at America the reproach that with all our glorious landscape, and our noble game animals so fast disappearing, we have not yet produced a great painter of wild life.

To produce a great animalier we must have two things—ability and opportunity. Obviously an eagle cannot soar if he is buried six feet under ground. No one can say whether or not we have been persistently smothering born animaliers by denying them opportunity, and the point is not worth discussing here ; but I could readily show that there is in this country a very wide-spread and growing taste for representations of animals.

My contention now is for the giving of better opportunities to the would-be animalier.\* There come to our art schools each year young would-be animaliers whose art inspiration is founded on a love of animals, and who yet realize that there is only one road to art, *i. e.*, through the schools. At present the schools are wholly devoted to the study of figures and landscape. They afford no opportunity whatever for studying animals. There is not in America to-day for the student of animals a single available collection of paintings, photos, books, casts, sculptures, skeletons and animals such as are necessary to develop the animalier.

Before going into details of his necessities, let me outline the career of the typical student, and, although a type, it is also a portrait of many I could name. He comes to New York or Boston to get a good grounding in art. From first to last, all the influences tend to push him away from animals. He looks forward to a chance when he gets to Europe. He goes to Paris. He is told that there is only one road to art, and that is by way of the

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\* I adopt the European word as being brief, and covering the ground of all our clumsy expressions, "animal-painter," "animal-sculptor," and "animal-illustrator."

academies. He must there "learn his trade, then apply his skill where it suits him."\*

This sounds reasonable, but how does it work out? Intelligent, cultivated sympathy is the basis of all good work in art. The student has his culture, his intelligence and his sympathies forced into other channels; the best years for learning are not devoted to the line of his real talent, and he is either handicapped for the race, or forced out of it altogether before his natural bent can recover from the academic incubus.

In 1894, a number of students in Paris were so impressed by the necessity for a different state of things that I was deputed to go to the Director of the Jardin des Plantes to ask for a better chance to study the animals, and for access to the vast collections of priceless material in the way of skeletons, casts and pictures in the adjoining galleries. Prof. Milne-Edwards heard me attentively. His reply was brief and emphatic:

"My friend, this is a menagerie, not an art school. We are not going to run in opposition to the Beaux Arts. We admit art students here as a favor, but art work is outside of our objects as a corporation."

I replied, "Am I to understand that under no circumstances will you give any better privileges to artists?"

He answered: "If M. Fremiet† will take an active interest, and undertake to say what is wanted, and does not ask for anything that will entail additional expense, we will consider the matter."

I went to M. Fremiet. His reply may be thus condensed:

"I hate teaching. I cannot be bothered with administrative work. I have too much work of my own on hand to undertake fresh responsibilities at a place so remote from my home as the Jardin des Plantes."

I had one more resource. I went to M. Julian, the founder, manager and proprietor of the celebrated Julian Academy. He heard me with much interest, and said:

"The subject is not only very important, but a very live one just now. Not long ago the director of the Jardin d'Acclimatation came to me and said: 'The time is ripe for making Paris the headquarters of a great school of animaliers. We will place

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\* These were Gerome's words on the subject.

† The famous animal sculptor.

at your disposal a building, and our animals, if you will undertake to manage it.' The scheme was a most alluring one. Had I been twenty years younger I would have entered into it with great enthusiasm. But when I considered the newness of the field, the tentative nature of each step under the circumstances, the worry of inventing appliances for everything, the poorness of the probable pay, the remoteness of the gardens from my own home and from my other work, and, above all, the fact that my health is very poor, I reluctantly declined to undertake it."

My information on the subject so far as Germany is concerned is derived from students who left Berlin and came to Paris in the hope of getting a better chance to study animals. So far as I could make out, there is not much to be learned there in the conduct of an animal-art school.

In London the Zoo is essentially for zoologists. What would a microscopist, a writer or a mathematician think if he had to do his work exposed to the weather, and surrounded by a jostling rabble of unmannerly persons! Surely an artist's work requires his whole attention as much as does that of the classes named.

The demand in London at length induced Mr. W. Frank Calderon to found, in 1892, a private school of animal painting. Although his quarters are very small, his equipment meagre, and his animals limited to two or three of the domestic species, the attendance has doubled each year, and to-day he has, I understand, one hundred students, and must move into larger quarters.

Last summer I made a beginning in this direction by opening a school at Tappan. My equipment consisted of a large building, a few good skeletons, the latest works on anatomy, a few casts of animals, and, for living models, one or two domestic species. The season was so far advanced before I was ready that the attendance was not what it might have been. Also, I lacked two essentials—convenience to New York, and the more interesting wild animals.

I have given but an outline of the evidence I have on this subject, but if the Zoological Society desires it, I can amplify to any extent. This much is clear to me: *The time has come for a great art school for studying animals.* Unless it takes form at New York, it will at some other point; and wherever it is founded, it will in time make that place the headquarters of animal painting and sculpture.

New York is undoubtedly the place for it ; and it seems to me that such an institution is worthy of being considered a prime object with such a body as our new Zoological Society. The ordinary expenses of the Zoological Park need not be sensibly increased by such an undertaking, once the accommodation is provided ; and yet it does not seem unreasonable to claim that the Park might thus double its usefulness.

The practical needs of the student, touched upon in my previous communication,\* may here be enlarged upon, and enumerated about as follows :

ANIMALS MADE SERVICEABLE FOR STUDY.—This may be done in two ways. First, by having one or more convenient cages in a studio ; second, by having places behind, or in the cages or enclosures, where the artist can get a good view of his model without being harassed by the public, or exposed to the weather.

STUDIO.—There should be a commodious, well-lighted and well-equipped studio, which should be available to students at all times compatible with proper administration. Notwithstanding its disadvantages, the Jardin des Plantes has some four hundred art students on its roll. If good facilities were offered, this number would soon reach one thousand ; but that, of course, is in Paris. In the New York Zoo, with such facilities as I am advocating, it would be very safe to say that two hundred art students would enter the first year. The average daily attendance would probably exceed ten. A convenient studio for such a number would not be less than 30x40 feet, by 20 feet at the eaves. And even this, I believe, would have to be enlarged within a very few years. The studio should have large north side and top lights, with arrangements for regulating the same, and for admitting sunlight. It should also be provided with lockers for the students' effects. I should have at least one carefully devised cage that would permit students to work all around it.

EQUIPMENT IN GENERAL.—The difficulties of the animalier are unusually great ; therefore his equipment should be unusually good, not unusually poor, as at present. His studio equipment

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\*Vide the First Annual Report, Page 61.

should consist of casts, photographs, pictures, books and mechanical appliances, including facilities for making dissections.

The models of the figure-painter pose for him, those of the animalier never do. Therefore, more than any other artist, he must work from knowledge of his subject. Obviously then, a thorough knowledge of its form and anatomy is essential. Nor is this mere theory. Barye, Landseer, Bonheur, Fremiet, Gericault, Swan, Riviere—indeed, every successful animalier that ever has been, was an earnest student of anatomy.

CASTS.—There are numbers of anatomical casts in the market, but the best are the private property of such institutions as the Beaux Arts and the Galerie d' Anatomie Comparée at Paris. These are almost beyond the reach of the student, though no doubt copies would readily be furnished to an important corporation making proper application.

Some of the most valuable material consists of careful casts from freshly-killed animals. These cannot often be made in the wilderness, for obvious reasons. Practically there is only one place where they can be made, and that is the menagerie, where expert assistance and the best appliances are available. Of casts from statuary it will be quite easy to form a valuable collection at slight expense as soon as a place is prepared for their reception.

SKELETONS.—Fremiet voiced the sentiments of the zoological art world when he said to me, "The most important thing about an animal is its skeleton." A collection of available typical skeletons alone would attract a crowd of earnest students; but they must be *available*; and that does not mean in glass cases, or a mile away—but handleable, measurable, and at hand. Of course, this means breakage and loss in course of time; but what are they for if not to be used?

SKINS.—In the practical working of my own school I found a few good skins very valuable. We must remember that color is a comparative term. An object is one color in one light or setting, and another in a different one. No one can foretell what it will become under the next change, and yet all have an instinctive knowledge whether it be right or wrong. The only way to learn the proper effect is to have a skin to place in the desired light.



**BOOKS.**—The number of books that can directly assist the artist is very small, and they are all sure to be found in a well-equipped zoological library.

**PHOTOGRAPHS.**—Photography has done much in the way of killing conventionalisms and bringing art nearer to the truth. A good photograph will often save the artist a vast amount of labor, and a good collection of photographs would surely be of great service.

**PICTURES.**—A good picture is a perpetual teacher. Pictures by masters are expensive, but valuable service might be rendered by photographic and other reproductions of standard works. And if a proper place to exhibit were provided, good pictures might be loaned, or even presented, by those who become convinced that they would promote good work.

Experience has made known an important fact that cannot be over-emphasized. An equipment costing only \$100, but right at hand in the studio, is worth far more than a \$1,000-equipment in the next block. No man can write advantageously half-a-mile from all reference books. A modest equipment of one hundred good books at his elbow is of far more practical use to him than the Astor Library across the city ; and the case of the art student is parallel.

Finally, an outfit of easels, stools and modelling stands is necessary ; but these might be purchased by each student for himself, at least at the outset.

**TEACHERS.**—The question of a professor will naturally be raised ; but it is not so important as it may at first seem. For a long time Julian's Academy was run without any teachers. What the student needs chiefly is *the opportunity of working from animals*, and the matter of tuition can well be left to the future. The pressing needs of the student animalier will be amply met by furnishing and equipping a studio as outlined. The only surveillance necessary would be to see that the privileges were not abused.

**NOTE.**—In accordance with the previously declared intentions of the Society, regarding opportunities for animal painters and sculptors desiring to work in the Zoological Park, it is a great pleasure to state that studio accom-

modations sufficient for a large body of working artists and art students have been planned on what is believed to be a liberal scale.

The Lion House will contain a studio 21x26 feet, connected by a miniature railway with every cage in the building, and into which any of the feline animals, wolves, foxes, or bears can be made to do duty as living models. In the Monkey House there will be another studio, somewhat smaller, and the corrals for the ruminant animals will also be provided with special accommodations for artists. The most important studio, however, will be situated on the second floor of the Administration Building. Its dimensions will be 20x50 feet, and immediately adjoining it will be the gallery for animal paintings and statuary, and the Society's library.

In the planning of these studios, advice has frequently been sought from Mr. Thompson and Mr. Daniel C. Beard, and will be throughout their entire development.

W. T. H.



THE DESTRUCTION OF OUR BIRDS AND MAMMALS :  
A REPORT ON THE RESULTS OF AN INQUIRY.

BY WILLIAM T. HORNADAY.

Unless man is willing to accept a place in the list of predatory animals which have no other thought than the wolfish instinct to slay every living species save their own, he is bound by the unwritten laws of civilization to protect from annihilation the beasts and birds that still beautify the earth, and still make it interesting.

The only way to save our birds and mammals from annihilation is to arouse an active national sentiment in favor of their preservation. During all these years of destruction—in the course of which the state of Florida, once marvellously rich in bird life, has been swept almost as clean of birds as is the Colorado desert—we have witnessed the strange spectacle of all our zoologists (save a very few) wholly engrossed in their studies, and leaving to the sportsmen the task of law-making and game preservation. Worse than that, there are those who will even accuse the oologists of setting a pace for the juvenile army of nest-robbers that now takes the field every spring. The ornithologists of Massachusetts and of New York, and a few of the active members of the American Ornithologists' Union and the Audubon Society, really have taken a hand in the enactment of laws for the protection of birds generally. Doubtless others will do likewise ; but there is no escape from the hard fact that, as a body, our ornithologists and mammalogists, our scientific museums, the professors of natural history in our higher institutions of learning,—in fact, *the very men most deeply interested in the preservation of our fauna*,—have been strangely, almost fatally, apathetic regarding the existence of the creatures they claim to love. Their love of natural history has been so great that in the intensity of their studies, and in the increase of their "material" for purposes of study, they have not noticed the carnage going on around them !

In the course of the correspondence of the New York Zoological Society with hunters and collectors regarding a future supply of American mammals and birds with which to stock the Zoological Park, the extent of the disappearance of our vertebrate fauna, as a whole, has become painfully evident. It seems that the war of annihilation, now going on with great activity against all our wild creatures, indiscriminately, is far more universal and far more fatal in its effects than people are aware.

In order either to verify or disprove what appeared to be the existing facts, and to discover possible remedies for existing evils, the Society resolved to make a brief but pointed inquiry into conditions affecting bird life as they exist to-day throughout the United States.

The prime object of this inquiry, and the report on its results, is to call universal attention to the fact that the whole volume of bird and mammal life in the United States is decreasing at an alarming rate. To that object, the question as to what species are disappearing most rapidly, or most generally, is but a side issue. That is a branch of our subject which might be pursued indefinitely, and it would be both easy and interesting to devote to it a great quantity of time and labor which might much better be expended in the promotion of measures to arrest the universal slaughter.

In seeking a method by which the extent of bird destruction—or preservation—might be reduced to figures and averages, it seemed entirely possible for any person who is specially interested in birds, and who has lived for several years in a given locality, to make and furnish a general estimate as to the abundance of bird life about him to-day in comparison with what it was ten or fifteen years ago. Accordingly, the following questions were prepared, and addressed to persons competent to answer them:

1. Are birds decreasing in number in your locality?
2. About how many are there now in comparison with the number fifteen years ago? (one-half as many? one-third? one-fourth?)
3. What agency (or class of men) has been most destructive to the birds of your locality?
4. What important species of birds or quadrupeds are becoming extinct in your state?

In each state and territory several observers were addressed, and an effort was made to cover the various sections of each large state. Had every addressee responded with a report, the results would have been more voluminous, but it is doubtful if the figures given herein would have been greatly changed. While the majority of the persons addressed were ornithologists, and associate members of the American Ornithologists' Union, the list of observers was purposely made to include many well-known sportsmen, guides, collectors of animals, and taxidermists.

The fact that the inquiry was intended as a step in the direction of preservation awakened keen interest, and brought forth reports from nearly two hundred observers, representing all states and territories in our country, except three. Fully 90 per cent. of the reports bear unmistakable evidence of having been prepared with conscientious thought and care. Many are very full, and particularly valuable by reason of their wealth of detail. The closeness with which the estimates of different observers in a given state or region agree with each other is quite surprising, and this may justly be regarded as evidence of their scientific value. There is no longer room to doubt the possibility of obtaining a collection of estimates which, when combined and correlated, yield a true statement of conditions as they exist to-day. As a whole, they constitute a mine of information which will undoubtedly prove of service in the organization of more comprehensive measures for the protection of our living creatures.

With these reports before us, and from other data in our possession, it would be an easy matter to fill a volume with the history of bird and mammal annihilation in North America down to the present year. The temptation to do so is great, and particularly so when we are thus brought face to face with the fact that *our most highly-prized species*—the "big game" quadrupeds, the fur-bearers, the gallinaceous game birds, water-birds, herons, shore-birds, and most beautiful song birds—*are the very ones that are most persecuted, and that are disappearing most rapidly.*

For the present, however, a comparatively brief statement, embracing a concise summary and digest of ascertained facts, may be brought to the attention of a greater number of readers than could be reached by a more voluminous report.

Without any desire to be sensational, or to be considered an alarmist, it may be said that the facts now established fully war-

rant the belief that unless much more radical and much more general protective measures are taken forthwith, the next fifteen years will witness the total annihilation within the United States of practically all our birds except the warblers and sparrows, and all our wild quadrupeds save the rabbits and the small species that burrow in the earth.

Whether this belief is warranted by existing facts, the reader will now have an opportunity to judge for himself.

DESTRUCTIVE AGENCIES NOW IN OPERATION.—In studying the reports now before us, the inquirer is bound to be impressed by the great variety of causes operating to bring about the annihilation of our birds and quadrupeds. With but very few exceptions, wherever bird life or mammal life still exists, there will be found a full complement of destructive agencies, hard at work, trying to break down the barriers by which nature or the humane portion of mankind is endeavoring to save our fauna from destruction. Wherever living creatures are still striving to hold their own, in something like abundance, there are the destroyers most numerous, both in kind and in number. Wherever there are birds that can be considered edible, or classed as "game," there will you find the sportsman, the idler, the market-hunter, the farmer and the "game hog," with dogs, or decoys, or baits of grain, and hired help of every kind available, afield early and late, eager to "kill something," eager to make "a good bag." Each class of destroyers is keenly anxious to kill all the birds before "the other fellows" get a chance to do so. These five classes of gunners spread over the fields and forests of nearly the whole United States where edible birds make their homes and rear their young.

If the reports before us are true, the boys of America are the chief destroyers of our passerine birds, and other small non-edible birds generally. The majority of them shoot the birds, a great many devote their energies to gathering eggs, and some do both. Wherever there are herons who bear the fatal gift of "plumes," there will the plume-hunter be found, hard at work. Every now and then, the newspapers and sportsmen's magazines record sickening details of the slaughter of gulls, terns, doves, or ducks; of brutal "side" hunts; of enormous catches of trout, bass or other game fishes. It is estimated that during last

autumn's hunting season, three thousand hunters entered the Maine forests in quest of deer, moose and caribou. Not taking into account what they killed and ate while in camp, they brought out 2,640 deer, 102 moose, and 53 caribou; and concerning the ability of those three species to survive the attacks of the army of riflemen that annually sweeps through the forests of Maine, Mr. Caton, State Game Warden of Maine, has expressed the opinion that it is only a question of a very short time when the moose and caribou will all have disappeared from the hunting grounds of Maine. It has been estimated that during the past season 7,500 deer were killed in that state.

Of the series of one hundred and ninety reports now before us, about 80 per cent. declare a decrease in bird life, and state the causes therefor. The list of destructive agencies now operating against our birds is a long one, and it is interesting to note the number of observers who complain of each. The figures given below show the number of observers who have reported each of these various causes in answer to the third question in the list.

## CAUSES OF DECREASE IN BIRD LIFE.

1. Sportsmen, and "so-called sportsmen," . . . . .	54	reports
2. Boys who shoot, . . . . .	42	"
3. Market-hunters and "pot-hunters," . . . . .	26	"
4. Plume hunters, and milliners' hunters, . . . . .	32	"
5. "Shooters, generally," . . . . .	21	"
6. Egg-collecting, chiefly by small boys, . . . . .	20	"
7. English sparrow, . . . . .	18	"
8. Clearing off timber, development of towns and cities, . . . . .	31	"
9. Italians, and others, who devour song birds, . . .	12	"
10. Cheap firearms, . . . . .	5	"
11. Drainage of marshes, . . . . .	5	"
12. Non-enforcement of laws, . . . . .	5	"
13. Gun clubs and hunting contests, . . . . .	5	"
14. Trapping birds for sale alive, . . . . .	2	"
15. Prospectors, miners and range-riders, . . . . .	2	"
16. Collectors (ornithologists and taxidermists), . . .	5	"
17. Colored population, . . . . .	4	"
18. Indians (for decrease of game quadrupeds), . . .	4	"



**SLAUGHTER OF ALL EDIBLE BIRDS.**—In the absence of deer, elk, bear and other large mammals, the well-nigh universal desire to range afield and "kill something," expends itself upon the so-called "game" birds. Thousands of usually conscientious sportsmen and farmers find an excuse for killing the last grouse, duck or snipe in their locality in the fact that the bird is a "game bird," *i. e.*, fit for food, and therefore deserving of death before the gun. And when finally the work of extermination in a given locality is complete, and the most earnest search of thicket and pond fails to put up a single bird larger than a sparrow, how infinitely touching is the complaint, uttered with an air of injured innocence and surprise: "The birds are all gone! I wonder why there are no more! *The winter must have killed them!*"

All those who are opposed to bird annihilation are invited to note the fact that the list of North American birds universally classified by gunners and others under the general head of "game birds," is not only very large, but is constantly being increased. To-day it stands about as follows, for the United States alone:

Gallinaceous birds—pheasants, grouse, part- ridges, quail, etc., . . . . .	about 33 species
Pigeons and doves, . . . . .	" 12 "
Shore birds—snipes, sandpipers, curlews, etc., . . . . .	" 47 "
Anseres—ducks, geese, swans, . . . . .	" 43 "
Rails, . . . . .	" 9 "
Cranes, herons, egrets, ibises and other large birds always shot on sight, for their plum- age, or for other reasons, . . . . .	" 10 "
	<hr/> 154 "

This summary does not include *the song birds now being killed for food*, which will be noticed separately. Aside from the kinds included in the above families of game birds, what else have we in the United States?

We have the gulls, terns, and other ocean-going swimmers; the birds of prey, the perching birds and the woodpeckers. Considering their size, their importance and their *original* abundance, the so-called game birds once represented nearly one-third of the total of bird life inhabiting the United States.

It would be an easy matter to fill several pages with records of the former abundance of upland game birds, ducks and geese throughout an almost countless number of localities in the United States. Beyond all possibility of question, it was once within the power of the people of the United States to maintain—simply by acting in time—a constant supply of gallinaceous game birds, which would have made about one-half of the entire United States a vast shooting preserve, yielding a generous annual supply for a great number of honorable sportsmen and farmer-hunters. Precisely what has occurred in most localities is reflected in the following extracts, taken almost at random, from some of the reports before us :

#### A FEW REPORTS ON GAME BIRDS.

"Shore birds and game birds are very rapidly decreasing, so that in a few years they will be extinct in this state."—HENRY H. BROCK, Portland, Me.

"Bob White has become nearly extinct here."—J. L. DAVISON, Lockport, N. Y.

"Bob White and wild ducks are fast disappearing."—VERDI BURTSCH, Penn Yan, N. Y.

"The ruffed grouse is fast being exterminated in this section."—A. E. KIBBE, Mayville, N. Y.

"Quail and woodcock are becoming extinct."—WILMOT TOWNSEND, Bay Ridge, L. I.

"Partridge have decreased two-thirds."—CEYLON CLARK, Hamilton Co., N. Y.

"Game birds, water fowl of all kinds (except gulls, terns, black ducks and brant geese), the larger hawks, owls and herons have decreased in this part of the state from 10% to 80% or 90% within the past fifteen or twenty years."—WILLIAM BREWSTER, Cambridge, Mass.

"All game birds are pretty well run out within ten miles of the shore, and are very scarce beyond that."—MRS. MABEL OSGOOD WRIGHT, Fairfield, Conn.

"The ruffed grouse can hardly be found now."—LYNDS JONES, Oberlin, O.

"Probably the wild turkey and ruffed grouse are becoming extinct."—F. W. LANGTON, Cincinnati, O.

"The following birds are becoming extinct: Wild turkey, prairie chicken, ruffed grouse, wild pigeon, white herons and others."—PROF. AMOS W. BUTLER, Brookville, Ind.

"All species disappearing rapidly, except quail."—F. M. NOE, Indianapolis, Ind.

"Becoming extinct: *All* game birds, *perhaps* with exception of quail; all raptors."—C. K. WORTHEN, Warsaw, Ill.

"Quail, partridge, prairie chicken, wild turkey, snipe, woodcock, plover and all kinds of ducks are growing less plentiful."—FRED WELLS, Battle Creek, Mich.

"The quail has almost entirely disappeared from this state. The ruffed grouse and the prairie hen are scarcely met with anywhere in the southern and central parts of this state. They are entirely extinct near Milwaukee."—PROF. H. NEHRING, Milwaukee.

"Of birds of prey, one-half remain; of water fowl, one-third; game birds, one-tenth."—EDMONDE S. CURRIER, Keokuk, Iowa.

"Prairie chickens almost exterminated in eastern third of this state. Not one-thousandth as many as there were at one time. Wild turkey extinct in the state. Water birds—geese, ducks, Wilson's snipe, plover, etc.—about one-twentieth as many as formerly. Woodcock rare; ruffed grouse and wild pigeon extinct."—PROF. L. L. DYCHE, Lawrence, Kansas.

"The pin-tailed grouse is threatened with extermination. Wild ducks, geese and other migratory water fowl have decreased one-half."—C. A. WATERMAN, Hay Springs, Neb.

"Prairie chickens nearly extinct; quails, one-half; turkeys, one-twentieth."—L. C. PERRYMAN, Tulsa, Indian Territory.

Such testimony as the above can be continued indefinitely, and for many other states and territories. In view of present conditions—a constantly decreasing supply of game birds, a constantly increasing number of cheap guns and gunners, and a seemingly insatiable demand for "game on the bill of fare"—does any sane person doubt that without some sweeping and radical change in the direction of conservation, the next fifteen years will witness the practical annihilation of the whole 144 species falling under the fatal designation of "game birds"?

It is time that game birds of every description should cease to be regarded as *necessary* food. It is time that all market hunting, and the sale of game birds and mammals of every description should cease, and forever. The food supply of the inhabitants of the United States has not yet reached so low a point that it is necessary to slay every edible beast and bird in order to keep the American soul and body together. So long as our market stalls are piled high with domestic turkeys, ducks and chickens selling at fifteen cents a pound, or less, and the finest beef in the world continues to be so plentiful and so cheap that there is little profit in raising cattle on free grass, the survival of the fittest American can be amply secured without the annihilation of the few game birds and quadrupeds that still remain.

USE OF SONG BIRDS AS FOOD.—A new danger now threatens our song birds, and others of their order.

In this grinding, pulverizing, end-of-the-century period, there is a large percentage of the human race which sticks at nothing that the law allows. For example, those who like to wear fur will wear fur as long as there lives a single wild and killable creature that is clothed with hair. In ten short years we have seen the taste for fur descend swiftly from the fur seal, otter and mink to the once-despised muskrat, rabbit and skunk.

In like manner, as our grouse and wild ducks grow scarce and disappear, the taste of the epicure and the pot-hunter descends by swift stages from the wild turkey, ruffed grouse, pinnated grouse and canvas-back, to the rail, sandpiper, mourning dove, bobolink and meadow lark. Consider the "reed-bird on toast"—or, worse still, "on a skewer." It is a trifle too large for one mouthful, but by no means large enough for two. To see a healthy, able-bodied American at work upon this two-ounce bird with a ten-inch knife, with the idea of satisfying the pangs of Hunger, is the acme of absurdity. But the reed-bird epicure must look to his laurels. There are rivals in his field. Let me quote some facts that have lately been communicated on the destruction of song birds :

From DR. R. L. WALKER, Carnegie Pa.:—"The birds are decreasing. In traveling through the country I do not see more than about one-third as many as I did fifteen years ago. . . . I think the English sparrow and the foreigners are the main cause of decrease of our native birds. When I say foreigners, I mean French, Italian and Hungarian laborers who shoot everything with feathers or fur whenever they can see them. . . . One Frenchman came in with nearly half a bushel of birds in one day." [He was brought to book by Dr. Walker, thoroughly frightened by threats of arrest, fine and imprisonment, begged off under promise of reformation, and actually became a bird protectionist.]

From WILLIAM PALMER, Washington, D. C.:—"Last year [1897] 2,600 robins were received in one month by a single dealer in the Washington market. They came from one locality in North Carolina, and were killed while roosting, with a lot of other species. The other species were also sent to market, but their fate was incidental to that of the robins. The birds were plucked and bunched when received, and offered for sale."

From WILLIAM BREWSTER, Cambridge, Mass.:—"Italians are beginning to kill the small song birds."

From EVERETT H. BARNEY, Springfield, Mass.:—"The Italians are destroying the small singing birds."

From CHARLES F. BATCHELDER, Cambridge, Mass.:—"Causes of bird destruction:—Cheap firearms in the hands of small boys, and of Germans, and Italians (especially), of the lower classes, *aided by an almost total non-enforcement of the laws for the protection of small birds.*"

From JAMES M. SOUTHWICK, Providence, R. I.:—"There is a gang of Italians in Providence who *gather for food* everything that has feathers or fur." . . . Messrs. John and Thomas Flanagan, who frequently visit their homestead at Greenwich, R. I., "report that Italians are scouring the country, particularly on Sundays. . . . One chap coming down a tree had four unfeathered crows. He could not speak English, but when made to understand [a question], pointed down his own mouth to indicate what he would do with them."

From WILLIAM OSBORN, Nashville, Tenn.:—"Hunters destroy doves, bob-whites and robins."

From E. E. BREWSTER, Iron Mountain, Mich.:—"The Italians are great offenders against bird life. . . . I met one of them out with a gun who had four brown thrashers in his pocket."

From PROF. H. NEHRLING, Milwaukee, Wis.:—"One main cause of the fearful decrease of our small migratory birds must be looked for in our Southern States. There, millions of all kinds of birds are killed to satisfy the palate of the gourmand. I shall give only one example. In the French Market of New Orleans, immense piles of birds are offered for sale. The lover of birds who has an opportunity of spending the fall and winter in the Southern States, and sees these hundreds and thousands of dead bodies, is surprised that there are still so many birds left. The negroes, Italians and French Creoles are especially responsible for this wholesale slaughter. There is scarcely a hotel in New Orleans where small birds do not form an item on the bill of fare. At certain seasons the robin, wood thrush, thrasher, olive-backed thrush, hermit thrush, chewink, flicker, and many of our beautiful sparrows form the bulk of these victims; but cat-birds, cardinals and almost all small birds, *even swallows*, can be found in the markets."

From ANDREW ALLISON, New Orleans:—"In the fall migrations, when all the migrants are literal butter-balls, appalling numbers of cat-birds, wood thrushes, red-eyed vireos, king birds, tanagers, and in fact any easily-shot birds are killed by the Creoles, or 'Gizis' that settle the country near the coast towns. Wood thrushes and cat-birds are more persecuted than any other, under the name of *grassé*, and many are sent to the markets here in September and October. . . . Green, little blue and yellow-crowned night herons are eagerly sought after by the same class of people. . . . Sandpipers, especially 'grass snipe,' or pectorals, are in demand, and every kind seen is killed. Bartram's sandpipers have decreased in this locality, so have killdeers,—for what is said about sandpipers will apply equally well to plovers."

From J. F. ILLINGWORTH, Claremont, Cal.:—" *Sturnella neglecta* [Western meadow lark] is getting scarce, *because it is shot as a game bird.*"

In this country there are hundreds of hotels and restaurants wherein the serving of choice game is as much a point of honor

toward their guests as is the furnishing of clean table linen. If game is procurable for money, game will appear on hundreds of bills of fare, daily, until forbidden by law—and very often for long after. To the manager of a banquet, or a bill of fare in a good hotel, the temptation to crown the list with a regulation dish of game is irresistible ; and, therefore, game must be procured. If the law stands in the way, the cold-storage men must have it amended. Meanwhile, give the bird another name than its own, serve it up, and take the chances of prosecution. If our sportsmen make too much disturbance over the quantity of game killed for the New York market, satisfy their clamor by inventing the pleasing fiction that all game sold in New York out of season has been killed 300 miles away. In a word, do whatever is necessary to procure the game. Trap it, shoot it,—on the wing, on the ground, or even on the nest if necessary,—but *get it*, so long as a bird remains.

Beyond question, unless the present rage for “ game-on-the-bill-of-fare ” subsides very materially, it is reasonably certain that all our game birds—and some of our game quadrupeds also—will cease to exist outside of fenced preserves. And when the birds grow still more scarce, and finally vanish altogether, does any one doubt that our thrushes, and robins, meadow-larks, black-birds and scores of others will be called upon to take their place on the bill of fare ? True, they may be christened anew—like the “ electric seal ” and the “ Alaskan sable ” amongst fur-bearing mammals ; but the song-birds will be killed, nevertheless.

DESTRUCTION OF BIRDS FOR MILLINERY PURPOSES.—One of the strangest anomalies of modern civilization, is the spectacle of modern woman—the refined and the tender-hearted, the merciful and compassionate—suddenly transformed into a creature heedlessly destructive of bird life, and in practice as bloodthirsty as the most sanguinary birds of prey.

Not all American women, however, submit to the edict of Paris regarding the wearing of birds ; but enough have done so, and now do, that whole states have been swept clean of all the species of birds that the Herodias of France decree shall be worn. This subject is by no means new. The statistics of the slaughter of the feathered innocents have been published by the Audubon Societies many times ; but the slaughter continues. After having

stripped our Atlantic coast, the whole of Florida and the Gulf coast of egrets, terns, and hundreds of thousands of other birds acceptable to the milliners for hat trimmings, the "plume hunters" are now at work along the coast of Mexico and Central America, Lower California, and even upon the headwaters of the Orinoco and Amazon. Quite recently, two of them risked their lives with the Indians on Tiburon Island, Gulf of California, and lost their stake!

Many sportsmen have become so appalled by the slaughter of birds in general, that they have laid aside their guns, and taken up the camera instead. Already this has attained the dignity of a "movement." But there is no corresponding general movement against bird millinery on the part of American women. The members of the Audubon Societies are a mere handful in comparison with the millions of girls and women who have not been stirred by the spirit of bird-protection. No task could be more difficult or more discouraging than that of convincing the majority of women that the thing which is in fashion is *not* the right thing to wear. It is the belief of the writer that it will be far easier to induce the average sportsman to lay aside his gun for the sake of saving his favorite game birds from annihilation than it will be to persuade the average girl or women to refrain from wearing upon her hats the badly-stuffed birds and the hideous composites of wings, tails and feathers which occupy, but do not adorn them.

Apparently the only remedy that ever will reach the root of the bird-millinery evil is that recently proposed by the League of American Sportsmen—a law forbidding the sale of birds "for commercial purposes,"\* and its rigid enforcement.

THE SCOURGE OF EGG-COLLECTORS.—Throughout the north-eastern quarter of the United States, extending as far westward as the Mississippi River and as far south as Virginia, bird life generally is persecuted by a perfect scourge of egg-collectors, largely in the name of science, but really for purposes of mere curiosity or trade. In the reports now before us, the outcry against the havoc thus wrought is very general and bitter. During the breeding season of the birds that nest in the region indicated, an army of boys

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\*The wording of the passage referred to in the Constitution of the League was proposed by Dr. J. A. Allen, expressly to cover the bird-millinery evil, as well as the sale of game.

and men takes the field, and sweeps through the thickets, the woods and the meadows, searching out the home of every nesting bird, gathering in or destroying all the eggs that are found, and very often shooting great numbers of the nesting birds. Says Mr. J. Warren Jacobs, Waynesburg, Pa. :

“ Numbers of boys from seven to twelve years of age continually rob the birds that nest in the town, and its immediate vicinity. Many simply upset the nests and break the eggs ; others throw eggs at each other, while some choose to blow the eggs, and keep them in cigar boxes. One father brought his son—who was ‘ a rare collector ’—to my place, to ‘ strike a deal ’ for the sale of three cigar boxes full of eggs—the fruits of the boy’s season’s work. ”

Mr. Jacobs estimates the decrease in bird life in that locality at a little under 50%.

At Mayville, New York, the situation is thus described by Mr. A. E. Kibbe :

“ The boys are, most of the time when out of school during the breeding season, looking after birds’ eggs. They are not checked at all, even by their parents. Last season I have had as many as four or five boys come to me at one time with eggs in their hands, and hold them out, asking me to identify them. ”

It was Mr. Kibbe’s habit to give every youthful nest-robber “ a talking to,” and admonish him to desist from such evil work ; but the “ collecting ” continued very much as before. Even amongst bird-lovers, it seems that comparatively few persons are aware that the game laws of the State of New York expressly provide that the nests of wild birds shall not be robbed, or wilfully or needlessly destroyed, except when necessary to protect buildings. In Pennsylvania, no persons save those above fifteen years of age who hold certificates from the State Game Commissioners, are permitted to collect birds, their nests or eggs, and even then only for strictly scientific purposes. In these two states, at least, the friends of the birds have it entirely within their power to prevent egg collecting, simply by invoking the power of the law ; and this has now been done by Mr. Jacobs.

The outcry against the irresponsible, unscientific egg-and-bird-skin collectors is almost as great as that against the English sparrow. They are the special enemies of the birds most useful to agriculture—those which seek the privilege of making their homes with us during at least one-half the year, and fighting the



noxious insects all through their summer campaign. The amount of actual damage inflicted upon the farmers by those who collect the eggs of insectivorous birds, and useful birds of prey, is undoubtedly great. Is it not time for egg collecting to be brought to a full stop, at least for five years? The country is full of eggs, and egg "collections," the majority of which are of doubtful value, and for the most of which nobody cares. If the bulk of eggs and egg literature may be accepted as an index, it is safe to assert that regarding the oology of Eastern North America there is very little of value that can be added by school-boys.

As an instance of what a professional collector can do in the wholesale destruction of birds, consider a few figures. We have before us a copy of a small publication called the *Oologist*, published at Albion, New York. On page 104 is a "list of the sets of eggs of warblers in the collection of J. P. Norris, Esq., on Oct. 1, 1897." Fifty-one species of warblers are represented in the collection; and here are a few of the figures given:

Worm-eating Warbler, . . . . .	84 sets,	416 eggs.
Yellow Warbler, . . . . .	94 sets,	388 eggs.
Oven bird, . . . . .	105 sets,	458 eggs.
Yellow-breasted Chat, . . . . .	139 sets,	521 eggs.
Kentucky Warbler, . . . . .	210 sets,	917 eggs.

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Grand total for 51 species, . . . . . 1,274 sets, 5,433 eggs.

The birds of North America number 766 species. Those of the Eastern United States alone number 400 species, of which the warblers enumerated represent one-eighth. Judge then from these figures the probable number of eggs in the entire collection of Mr. Norris. It is difficult to ascertain the total number of egg-collectors in the United States, but there are several hundred, beyond all doubt, leaving entirely out of account the thousands of small boys who play at "egg-collecting." It would be exceedingly interesting for some professional oologist to secure sufficient data on which to base an estimate of the total number of collectors in the United States, the approximate number of eggs in their possession, and the number now collected annually. It is likely that to represent the total number of eggs available to-day, six large figures would be required, and possibly seven.

To the scientific egg-collectors themselves—the serious-minded men, not the irresponsible schoolboys who rob nests under the

pretense of being "interested in ornithology"—we submit this question: Is it not time to call a halt? Behold the abuse that has grown out of your legitimate and proper work. Will *you* attack it, seriously and at once, and abate it? The legitimate study of oology is one thing, but wholesale nest-robbing and bird-destruction, in the name of oology, is quite another.

HUNTING CONTESTS, OR "SIDE" HUNTS.—Of all the influences now operating for the destruction of our birds and mammals, the most outrageous is the so-called "side hunt." A side hunt may properly be defined as a game of murder, in which a body of particularly brutal (or thoughtless) men, sometimes *more than a hundred* in number, and usually known as a "gun club," choose sides, arm themselves with guns and an unlimited quantity of ammunition, go forth on a given day, and for a fixed number of days shoot many kinds of wild creatures, "for points." At the close of the slaughter, the victims are collected, counted according to the "points" agreed upon for each species, and the side which has accomplished the greatest amount of butchery is declared the winner.

The character of the men who engage in such contests—and *of course find pleasure in them*—may be gauged by the fact that they are not above killing barrels of herons, woodpeckers, crows, jays, red squirrels, chipmunks *and skunks*, and counting up the points allotted to each. We have read much of the doings of savages, and seen a little, but so far as known, the side hunt descends a step lower than any hunting operations accredited to the Digger Indians, Dog-Ribs, Apaches, or any other savage tribe, red or black. Organized killing *for the mere sake of killing*—so far as about one-half the results are concerned—is a pastime which, when indulged in in a country like ours, ought on retrospection to bring the blush of shame to the cheek of any self-respecting man. We know of but few of the predatory animals that indulge in such practices, those which have come under our observation being a few particularly blood-thirsty individuals amongst the gray wolf species, the tiger, weasel, skunk and sheep-killing dog. Even with these, however, the killers generally confine their wholesale operation to victims of a single species; but the side-hunter shoots nearly everything that he can discover.

As an object lesson on the necessity for more drastic measures for bird and mammal protection, a few facts in regard to one or two side hunts may serve a useful purpose. In *Recreation* magazine for December there appeared (with a strong denunciation), a quotation from the Leominster, Mass., *Daily Enterprise*, giving the names of thirty-three members of the Gute Zeit Club, who were to engage [in a side hunt "all day Saturday, with or without dogs," \* \* \* "the game to be counted as follows : Fox, 100 points ; coon, 60 ; owl, 75 ; blue heron, 50 ; partridge, duck (wild), hen hawk and black squirrel, 50 each ; woodcock and crow, 40 each ; gray squirrel, 30 ; rabbit, 20 ; red squirrel, 20 ; chipmunk, 10 ; skunk, 60 ; woodpecker, 10 ; blue jay, 10."

Before this hunt took place, the game warden of Leominster warned its promoters that certain birds in their list of intended victims were protected by law, and they were forbidden to kill them. So far as known, the warning was heeded, and the woodpeckers and blue jays escaped the general slaughter.

In *Recreation* for January, 1898, was reproduced, from the Lebanon, N. H., *Free Press*, the details of a side hunt around that town, *which lasted one week, and in which 140 men and boys were engaged!* An indignant resident of Lebanon forwarded to the editor a copy of "a yellow hand-bill, in circus-poster type, announcing the great slaughtering match," and a letter of protest in which he said :

"Red squirrels may not be game, but they are harmless little creatures; and that *a barrel full* of them should be shot and brought in, and then thrown on the dump to rot, is an outrage. All the true sportsmen here are indignant at this piece of wholesale slaughter."\*

From Mr. R. A. Gunn, Jr., of St. Albans, Vermont, we have received lists of the birds and mammals killed at Enosburg, Vermont, on the last three annual side hunts let loose at that place. The record of slaughter for the last two years is as follows :

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\*Since the above was written the editor of *Recreation* (Mr. G. O. Shields) has informed me of the following :

"I have had several letters from each of the two towns named, from persons who participated in the hunts, or who were billed to do so, who admit frankly that they now see the error of their ways, and they promise never to participate in another side hunt. It is safe to say that many of these men are heartily ashamed of their work, and I doubt whether another side hunt could ever be gotten up in either place."

## ANNUAL SIDE HUNT AT ENOSBURG FALLS, VT., OCT. 9, 1896.

“ Captain ” Stetson and 19 others.      “ Captain ” Rublee and 19 others.

		Totals.
128 gray squirrels,	84 gray squirrels,	212
145 red squirrels,	65 red squirrels,	210
34 partridges,	22 partridges,	56
4 owls,	2 owls,	6
14 blue jays,	11 blue jays,	25
3 crows,	2 crows,	5
18 woodpeckers,	23 woodpeckers,	41
2 hen hawks,	1 woodcock,	3
1 fox,	1 fox,	2
1 rabbit,	3 rabbits,	4
1 muskrat,		1
		<hr/> 565

Strange to say, the side hunt of November 18, 1897, did not yield such an abundant harvest of dead animals. It is true that only thirty killers were engaged, against the forty of the previous year; but the total of victims for both sides was painfully low—only 51.

“ Capt. ” Marsh, and 14 shooters.

1 duck.  
2 crows.  
1 fox.  
3 partridges,  
7 rabbits,  
3 gray squirrels,  
1 mink.  
7 red squirrels,  
10 woodpeckers,

“ Capt.” Best, and 14 shooters.

4 partridges.  
3 rabbits.  
4 gray squirrels.  
2 red squirrels.  
3 woodpeckers.

The great falling off from the previous year's splendid (!) record was attributed, locally, to *the wet weather of the spring of 1897, which killed off the game*, the lateness of the hunt, and the fewer number of men engaged. The slaughter of the previous year of course was the principal cause.

Writing from Waynesburg, Pa., Mr. J. Warren Jacobs communicates the following: “In the eastern part of the county are city hunting-club game reserves. These various clubs are

giving prizes for the largest number of scalps of hawks and owls killed by local contestants. This is poor policy ; for destruction of beneficial species will surely follow."

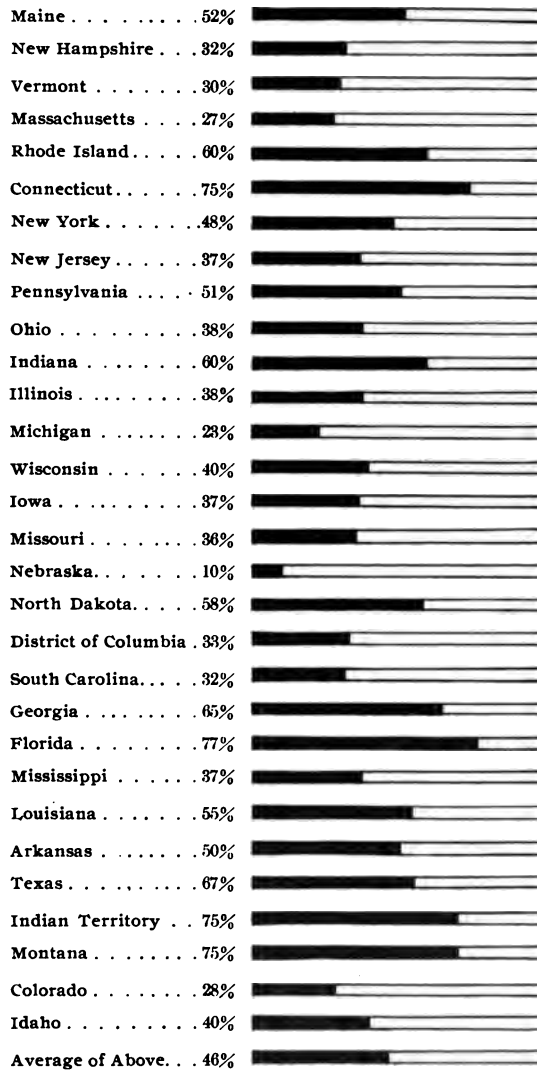
The fact has been clearly established by the researches of the U. S. Biological Survey that of all our hawks and owls, only the sharp-shinned hawk, Cooper's hawk and the goshawk have a debit balance against them, and deserve destruction. In the destruction of noxious mice, gophers, insects, etc., the others do vastly more good than harm.

On last Thanksgiving day (1897), fourteen young men and boys engaged in a side hunt at Sedan, Indiana, and killed the following creatures : 50 English sparrows, 8 chipping sparrows, 5 blue jays, 27 nuthatches, 17 downy woodpeckers, 14 hairy woodpeckers, 12 red-bellied woodpeckers, and 2 flying squirrels. A number of rabbits and squirrels were killed, but the total of each was not recorded. Our informant assures us that the young men of Sedan are no worse than others—in fact, "better than they will average"—and the whole affair may perhaps be charged to the cruelty of thoughtlessness as applied to innocent wild creatures.

WHAT THE REPORTS SHOW.—A satisfactory number of reports have been received from each of thirty-six states. In all save a very few, the general estimates of decrease (or increase) were so precise that it seemed entirely feasible to combine them into a series of general averages for each state. In a few cases, where no percentage of decrease was named, but a fairly clear idea was conveyed by an array of detailed facts, or the use of such expressions as "decided decrease in bird life," or "very perceptible decrease," we have assigned to each of such reports figures representing a decrease of ten per-cent., or twenty per-cent., or twenty-five per-cent., as the facts seemed to warrant. Throughout our calculations, wherever a doubt existed, we have given the living birds the full benefit of it, and in the accompanying table of diagrams showing the average of decrease in thirty different states and territories, we are certain that the statements of loss are under the mark rather than above it. Many observers took pains to consult others before deciding what their figures should be, and the effort to be conservative in estimating losses was quite generally apparent. We believe that some observers have

## DECREASE IN BIRD LIFE IN 30 STATES.

The shaded portions show the percentages of decrease throughout the states named during the last 15 years, according to the reports.



forgotten how plentiful birds really were fifteen years ago, before "hat-birds" and aigrettes, and birds' wings and heads were worn, before egg-collecting became a serious menace, and when the shot-guns were fewer, by half a million or so, than they now are.

*For the whole thirty states represented in the diagrams, the average of loss in bird life for their combined area is forty-six per cent.*

*Balanced Areas.*—Three states, fully represented by reports, show that in them the balance of bird life has been maintained. They are North Carolina, Oregon and California. In North Carolina there has been a serious loss in the ducks, geese and other waterfowl of the coast, but we gladly assume that it has been made good through an actual increase in other portions of the state. The conditions for the preservation of bird life in the mountainous and heavily timbered interior portions of the state seem exceptionally good, and the usual agencies for destruction are happily absent. But for the destruction of the game birds, we would be able to report a balanced condition for Nebraska, and it seems as if it would be an easy matter for that state to occupy the position of Kansas.

*Areas of Increase.*—It is a great pleasure to be able to report four states in which bird life is on the increase, instead of on the decline. They are

KANSAS,  
WYOMING,

WASHINGTON, and  
UTAH.

At present Kansas seems to be the banner state for bird protection, and so far as we can discover, the chief cause of it is to be found in this charming law:

"Section 6.—It shall be unlawful at any time to buy, sell, barter, ship or offer for sale, barter or shipment within the state of Kansas, any bird or birds named in Section 1." In this law and its enforcement are to be found the reasons for the great abundance of bird life observed last spring during a six days' drive through central Kansas, when flocks of quail ran along the road, sides, as tame as blackbirds, and rabbits were equally abundant and fearless.

The western part of the state of Washington reveals the uncommon paradox of a locality being filled up with new bird forms because of the clearing away of the timber! Ordinarily, those forests are too dense for insectivorous birds; and now, as man

clears the ground and plants his crops and orchards—and prepares to fight the insects which everywhere follow his efforts—the birds troop in to make war upon the insect pests that would fain destroy the fruits of his labors. On this point the report of Mr. John M. Edson, of New Whatcom, Washington, is of such general interest that we quote it in full :

For the past three years I have followed the practice of counting (or estimating) the birds of each species seen in a day's outing, and recording the result. These outings have been as frequent as once a week. I may say that my observations in this region, extending over a period of eight years, would indicate that there is here an increase in bird life rather than otherwise. The conditions here are, no doubt, exceptional.

The field of my observations has been in the vicinity of Bellingham Bay (an arm of Puget Sound). This region, like all of Washington west of the Cascades, is, as you well know, covered with a heavy growth of evergreen timber. But a small beginning has as yet been made in the cutting away of these forests. They are but sparingly populated with birds, whether we refer to the number of individuals or species. The woodman and his axe have not as yet encroached upon their domain enough to make any perceptible alteration in their numbers. Yet, on the other hand, the woodman is unquestionably to be credited with bringing a considerable increase in that considerable class of birds which inhabit the open, partially cleared lands.

As an instance of marked increase, I noted my first chipping sparrow in 1894. Since then their numbers have increased annually, till this season I have seen more than a dozen in Whatcom. The robin, bluebird, meadow-lark, Gambel's sparrow, junco, savanna sparrow, swallows, martin, king-bird and probably some warblers have, I think, perceptibly increased. The California mountain quail, an introduced species, has multiplied greatly, as has also to some extent the valley quail and bob-white. The Asiatic pheasants are reported to be increasing at points south of here, though none have come under my own observation. I have never seen or heard of the presence hereabouts of any of the European song birds introduced in Oregon a few years ago.

Even our crow seems to welcome the advent of man. His services as a scavenger are recognized, and he is little molested. He consorts with the chickens in the barnyard and doves upon the street, and during the rainy season is abundant in all parts of the town. Of course, I refer to the Northwest crow.

The sooty grouse seems to be one of the first species to retire before the encroachments of the white man. Large numbers of the band-tailed pigeon are killed annually, and its fate will, I have no doubt, ultimately be that of its eastern congener, though I have not observed that any decrease is as yet apparent.

As to the ducks, geese, etc., there has probably been some decrease. Certainly many more are killed than formerly. With the gulls, grebes, guil-



mots, murrelets, etc., and the birds of prey, there is no change in numbers that I have been able to detect.

All the larger mammals are no doubt decreasing to a greater or less extent. The beaver, martin and otter have become quite rare. The Indian market hunters are perhaps the most destructive to the ducks and game birds. Boy hunters destroy some small birds, but the professional bird-butcher and nest-robber have not as yet commenced their nefarious work.

Of all cities that have come under our notice, Cheyenne surely deserves the first place as a bird refuge. Birds are now many times more numerous there than fifteen years ago. Causes: tree-planting, bird protection and English sparrow extermination. Why should not every American city learn from Cheyenne? The extermination of the sparrow in a given locality is merely a question of a little prize money for distribution among the boys who will produce during a given season the greatest number of sparrows' heads.

*Insufficient Data.*—From six states the reports received were not sufficient in number to afford a satisfactory basis for a general average for each state as a whole. These were Minnesota, Arizona, Tennessee, Kentucky, West Virginia and Maryland; but all the reports have been duly set forth. From four states—South Dakota, Delaware, Alabama and Nevada,—there are no returns, up to the date of going to press.

**SPECIES THAT ARE BECOMING EXTINCT.**—It is quite germane to our subject to state very briefly what species have been named in the reports before us as becoming extinct. In order to compress this information into the smallest possible limit, we have gone through all of the 190 reports in hand, and made a complete list of the species named in answer to question No. 4—"What important species of birds or quadrupeds are becoming extinct in your state?" The total number of localities in which each species is mentioned has also been reckoned up, and the figures are stated herewith.

It must be remarked, by way of explanation, that many observers used the terms "becoming rare," "very scarce" or "disappearing," instead of "extinct," or "becoming extinct;" and all species mentioned under such qualified terms as the three first quoted, have been excluded from our reckoning. Had they been included, the totals would be at least double the figures given. It is hardly necessary to remind the reader that many of the

species enumerated occur in only a very few of the 190 localities reported upon. For example, 15 observers report the prong-horned antelope as extinct, or becoming so, which very nearly represents the whole number of states ever inhabited by that animal. Although the disappearance of the caribou is reported in but two localities, it must be borne in mind that there are only seven of our states in which it has been found during modern times. The species most frequently reported in the list now given are merely those of widest distribution.

SPECIES REPORTED AS "EXTINCT," OR "BECOMING EXTINCT."

*Mammals.*

"The larger quadrupeds, generally," . . . . .	6 reports.
Bison ; Buffalo ( <i>Bos americanus</i> ), . . . . .	15 "
Elk ; Wapiti ( <i>Cervus canadensis</i> ), . . . . .	22 "
Moose ( <i>Alces americana</i> ), . . . . .	7 "
Virginia or White-tailed Deer ( <i>Cariacus</i> <i>virginianus</i> ), . . . . .	32 "
Mule Deer ( <i>Cariacus macrotis</i> ), . . . . .	3 "
Black-tailed Deer ( <i>Cariacus columbianus</i> ), . . . . .	1 "
Woodland Caribou ( <i>Rangifer caribou</i> ), . . . . .	2 "
Prong-horned Antelope ( <i>Antilocapra americana</i> ), . . . . .	15 "
Mountain Sheep ( <i>Ovis montana</i> ), . . . . .	10 "
Mountain Goat ( <i>Haploceros montanus</i> ), . . . . .	2 "
"Bears, generally," . . . . .	1 "
California Grizzly Bear ( <i>Ursus horribilis horriaeus</i> ), . . . . .	2 "
Black Bear ( <i>Ursus americanus</i> ), . . . . .	15 "
Jaguar ( <i>Felis onca</i> ), . . . . .	1 "
Puma ; Mountain Lion ( <i>Felis concolor</i> ), . . . . .	6 "
Red Lynx ( <i>Lynx rufus</i> ), . . . . .	5 "
Otter ( <i>Lutra canadensis</i> ), . . . . .	11 "
Beaver ( <i>Castor canadensis</i> ), . . . . .	22 "

*Birds.*

"All birds, generally" . . . . .	3 reports.
"Game birds, generally" (meaning gallinaceous species), . . . . .	5 "
"Shore birds, generally" . . . . .	5 "
"Geese and ducks, generally" . . . . .	20 "

" Herons and egrets, generally "	12 reports.
" Hawks, generally "	3 "
" Owls, generally "	4 "
Wild Turkey ( <i>Meleagris gallopavo</i> ),	30 "
Ruffed Grouse ( <i>Bonasa umbellus</i> ),	20 "
Pinnated Grouse ; Prairie Hen ( <i>Tympanuchus</i> <i>americanus</i> ),	13 "
Heath Hen ( <i>Tympanuchus cupido</i> ),	1 "
Passenger Pigeon ( <i>Ectopistes migratorius</i> ),	35 "
Blue Bird ( <i>Sialia sialis</i> ),	15 "
Carolina Paroquet ( <i>Conurus carolinensis</i> ),	5 "
Wood Duck ( <i>Aix sponsa</i> ),	5 "
Flamingo ( <i>Phænicopterus ruber</i> ),	1 "
Roseate Spoonbill ( <i>Ajaja ajaja</i> ),	3 "
White Heron ( <i>Ardea candidissima</i> ),	10 "
Ivory-billed Woodpecker ( <i>Campephilus principalis</i> ),	4 "
Pileated Woodpecker ( <i>Ceophlæus pileatus</i> ),	4 "
California Vulture ( <i>Pseudogryphus californianus</i> ),	1 "

From a much larger number of birds and mammals than are included in the above lists, these have been selected because there is good reason to believe that, under present conditions, they are all certain to become practically extinct *throughout the whole United States* within a few years. For the majority of the above, *total* extinction—which means the death of the last individual of a species or race—probably is far away. The qualified term, *practical* extinction, now destined to come into very general use, may properly be applied to any species which has become so rare in a state of nature that it is an impossibility to discover living representatives by seeking for them. The larger and more conspicuous the quadruped or bird, the more quickly it is exterminated. All persons who have any regard for the preservation of the few wild herds of elk, antelope, deer, mountain sheep and other "big game" mammals that still exist in our country, should be warned by the fate of the great northern herd of American bison, and act in time. In 1880 it was estimated by the hunters and fur-buyers of Montana that "the buffalo range" of Montana, Wyoming and western Dakota contained 500,000 buffaloes; and I think the estimate was not over the mark. On June 1, 1883, less than 400 individuals remained; and it was several years

before the people of the United States awoke to a realization of the fact that the great buffalo herds were actually and absolutely *gone!* With the fate of the buffalo before our eyes, it requires no seer to predict, with absolute certainty, that unless thorough and drastic measures are immediately taken to preserve the remnants of our once-splendid herds of game quadrupeds, and flocks of game birds, a very few years more—we will say ten, for some, and fifteen for others—will find our country without enough wild representatives of those species to stock a zoological garden.

CONCLUSIONS REGARDING BIRDS.—Regarding the avian fauna of the United States, the following conclusions are justified by facts:

1. Throughout about three-fifths of the whole area of our country, exclusive of Alaska, bird life in general is being annihilated.
2. The edible birds (about 144 species) have been, and still are, most severely persecuted.
3. In many localities edible birds of nearly all species have become rare, and some important species are on the point of general extermination.
4. Owing to the disappearance of the true game birds, our song and insectivorous birds are now being killed for food purposes, and, unless prevented, this abuse of nature is likely to become general.
5. The extermination, throughout this country, of the so-called "plume birds" is now practically complete.
6. The persecution of our birds during their nesting season, by egg-collectors and by boys generally, has become so universal as to demand immediate and special attention.
7. Excepting in a few localities, existing measures for the protection of birds, *as they are carried into effect*, are notoriously inadequate for the maintenance of a proper balance of bird life.
8. Destructive agencies are constantly on the increase.
9. Under present conditions, and excepting in a few localities, the practical annihilation of all our birds, except the smallest species, and within a comparatively short period, may be regarded as absolutely certain to occur.\*

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\*The protection of migratory birds must be general in order to be effective. New Orleans should not rob Cheyenne of the fruit of her labors in the field for protection.

10. If the present war of extermination is to be terminated, drastic measures must be adopted, and resolutely carried out; and the crusade for protection must be general. No half-way measures will suffice; and it is to be expected that some of the destroyers will be displeased.

RECOMMENDATIONS REGARDING BIRDS.—While at first thought it may seem impossible to propose a series of universal laws for bird protection that can save our bird fauna from annihilation, even if adopted by the different states, we believe it will be found on close examination that the task is not nearly so difficult as it seems. The difficulty lies, not in the framing of comprehensive measures, but in securing their adoption in the various groups of states wherein they are needed. The business of securing the enactment of legislation is a separate question, and need not be discussed here. As to the character of the legislation that would be most effective, there are certain demands so imperative as to be perfectly obvious, and the laws that would satisfy them would be so universally beneficial, their enactment would be desirable to every state and territory, save two or three. They are as follows:

1. Prohibit all egg-collecting, except under license from state game commissioners, and the payment of a license fee.
2. Provide for the extermination of the English sparrow.
3. Prohibit the sale of dead game, at all seasons.\*
4. Prohibit the killing or capture of wild birds, and of quadrupeds, other than fur-bearing animals, for commercial purposes of any kind. (This will stop the slaughter of birds for millinery purposes).
5. Prohibit all spring shooting.
6. Prohibit the carrying or using of a gun without a license.
7. For three years prohibit the killing or capture of any birds, except such birds of prey as may be declared by the U. S. Biological Survey to be sufficiently noxious to merit destruction. The only exception should be in favor of persons desiring to collect for scientific purposes, *in moderation*, and then only when properly vouched for by some scientific institution, and duly licensed by the state game commissioners.

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\*This has long been earnestly advocated by *Forest and Stream*, and the proposition is constantly gaining advocates. It is also one of the planks in the platform of the League of American Sportsmen.

8. At the end of three years, restrict by legal enactment the number of game birds that may be killed or taken in one day, or in any given period, by a single individual.

CONCLUSIONS REGARDING WESTERN MAMMALS.—1. Throughout the whole region west of the Mississippi River, except in the Yellowstone Park and Colorado, all the large quadrupeds, save gray wolves and coyotes, are being shot down several times faster than they multiply.

2. Under existing conditions, their general annihilation within a few years time (save in the two localities noted) may be regarded as a certainty.

3. Outside of areas actually protected, the prong-horned antelope will be the next large species to disappear; and it will be closely followed by the mountain sheep, mountain goat, California grizzly bear, beaver, elk and mule deer.

4. It should be accepted as a fixed fact that any western state or territory so sparsely settled that large quadrupeds can successfully hide and breed in its wilderness areas, is not financially able to employ a force of salaried game wardens large enough to maintain surveillance over all persons who are inclined to kill game.

5. *The professional guides and hunters, the ranchmen and other country residents of the Rocky Mountain and Pacific Coast regions, are the only men who have it within their power, or who ever will have it within their power, to save our noblest species of wild game animals from complete annihilation.*

6. These men are the ones who will lose most, both in money and in food, by the destruction of the game animals that now furnish them a valuable source of revenue.

RECOMMENDATIONS REGARDING MAMMALS.—1. As a matter of duty to their own interests, the guides, hunters, ranchmen and sportsmen of the Rocky Mountain and Pacific Coast regions should assemble and decide what restrictions shall be placed upon the killing of large game—as to the number of head per man that may be taken, license fees and fines, and as to the necessity of total prohibition for given periods.

2. Every state and territory now inhabited by large game should immediately enact a law prohibiting the killing of any female hoofed animal, under any and all circumstances, and also

prohibiting the killing of any hoofed animal less than one year old.

3. Throughout every state and territory now inhabited by them, the killing of antelope, mountain sheep and mountain goats should be absolutely prohibited for ten years; and the possession of a fresh skin or head should be regarded as *prima facie* evidence of violation of law.

4. Henceforth every person visiting the Western regions in quest of large game should regard it as his duty to co-operate with state and territorial authorities in the observance and enforcement of the game laws, to kill sparingly at all times, and under no circumstances to shoot female or yearling animals.

5. No guide should conduct a hunting party in quest of game unless each member of it pledged himself to observe the rules of moderation in shooting that now are morally binding upon all.

6. In view of the alarming decrease of our large game animals, it is time for the adoption throughout the United States of an unwritten law that any man who kills a female hoofed animal is not to be considered a true and honorable sportsman.

7. Every state and territory containing large game should collect a license fee on each gun carried or used in hunting; and all funds derived from this source, and from fines, should be used in payment of the salaries of game wardens.

8. The sale of dead game should be prohibited.

There are few persons, intelligent or otherwise, who will deny the desirability of preserving from destruction the splendid vertebrate fauna which still inhabits our country. Throughout the whole United States, the love of natural history, and interest in zoological studies—and their promotion—is growing at a rapid rate. A practical demonstration of this fact may be of some interest.

Three months ago, when the principal of one of the large public schools in New York City appealed to an officer of the New York Zoological Society for suggestions which might lead to the procurement of avian *bric-à-brac* for a little army of nearly 800 children who knew absolutely nothing of wild birds, and had nothing from which to learn of them, an appeal for gifts of bird skins was published in *The Osprey* magazine. Only valueless duplicates were asked for.

Instantly, responses came hurrying in from every direction. Boxes of valuable specimens, fully labeled, came from Maine, from Oregon, southern California, Arizona, Florida, Louisiana, and nearly a score of other states. In a month the office of the Zoological Society looked like an ornithological clearing house. The total number of donors was 41, and the total number of mounted birds, bird skins, and other specimens exceeded seven hundred! The donors were really glad of an opportunity to place in the empty hands of the children of lower New York a few of the leaves of the great book of Nature which circumstances had so generously opened to them. It was the "one touch of Nature" which "makes the whole world kin."

If all the people of this country were assembled, and a rising vote taken on the question—Are our birds and mammals worth preserving? we believe nearly every man, woman and child would stand up to be counted. Even the worst destroyers believe in limiting the destructiveness of others! Thanks to the extent of our territory, and the diversity of its physical aspect, our mammalian and avian faunas are still exceedingly rich and varied, as well as interesting and valuable. With the exception of a few noxious species, our wild creatures are well worth preserving, and their further annihilation would be nothing less than a national disgrace. And even though we of to-day should feel little interest in the preservation of the animal life indigenous to North America, it must be remembered that *we owe a duty to succeeding generations*, and we have no right to rob those who come after us of the wealth of living forms that Nature has so lavishly bestowed upon this continent, and maintained in great abundance until fifteen years ago. The zoological estate now in our possession is not ours in fee simple, *but by inheritance under entail*; and it must be transmitted to those who come after us, in a good state of preservation.

Beyond all possibility of dispute, the time has now arrived when it is the duty of all American zoologists, all our Academies of Science, zoological societies and museums, and all our higher institutions of learning, to unite and become actively and aggressively interested in comprehensive measures for protection. In co-operation with the Audubon Society of the State of New York, the American Museum of Natural History, through its President and through Dr. J. A. Allen and Mr. Frank M. Chap-



man, is already, and for the past year has been, actively engaged in measures designed to save our remaining birds from annihilation. During the last twelve months, the Audubon Society has sent out 35,000 circulars, and solicited active assistance from over 300 newspapers in this state.

It seems to us that the United States Biological Survey, the Smithsonian Institution, the Philadelphia Academy of Sciences the American Museum of Natural History, the New York Zoological Society, Yale University, Harvard University, Cornell University, the Field Museum and the Leland Stanford University each should employ a competent man, provide him with a fair allowance for expenses, and instruct him to devote his entire time and energy to the business of securing adequate protective laws *throughout the whole United States*, and in furthering all legitimate measures for the protection of birds and mammals. It is reasonable to believe that four good men could enter the Rocky Mountain region, bring together the guides and ranchmen, and in less than two years accomplish results of great and lasting benefit.

We believe that the time is ripe for a general rebellion against the forces of destruction. We believe that the American people will yet rise to the seriousness of the situation, and bring about a complete revolution in behalf of "*the protection of our native animals*," which is one of the prime objects for which the New York Zoological Society was founded.

ADDENDA.—Very soon after this report was completed and sent to the printer, an Interstate Wardens' Convention was held in Chicago. It was a meeting of game wardens and special delegates appointed by the state legislatures of Wisconsin, Minnesota, Michigan, Illinois, Ohio and North Dakota. It contained sportsmen, naturalists and law-makers. It was, we believe, the most important meeting ever held in this country having for its sole object the preservation of our mammals, birds and fishes. Never before, it is safe to say, was a meeting for such a purpose pervaded by such earnestness and determination, and the disposition to urge relentless war on the existing agencies of destruction was plainly manifested. Strong resolutions were adopted urging the enactment of laws against the sale of game, the shipment

of game, and the existing iniquities of the cold storage laws of New York and Illinois. Mr. Ruthven Deane ably championed the cause of all birds not classed as game birds, and offered as proper text for an interstate law, the bill prepared by the American Ornithologists' Union, "for the Protection of Birds, their Nests and Eggs." By a formal resolution the enactment of the proposed law was recommended.

A very full and valuable report of the proceedings of the Convention will be found in *Forest and Stream* for February 19, and its perusal is recommended.

REPORTS ON THE DESTRUCTION OF BIRDS AND  
MAMMALS THROUGHOUT THE UNITED STATES.

*Explanation.*—The following comprise all the reports received up to the date of going to press, but doubtless others will arrive too late for publication. Only a brief summary of each is offered, but as far as possible the observer's language is quoted. The states and territories are grouped in geographical sections, to facilitate generalization as to large areas. For the sake of brevity and clearness, the causes of decrease stated in answer to question No. 4, are recorded in figures, which refer to the serial numbers of the following list of causes :

1. Sportsmen ; and " so-called sportsmen."
2. Boys who shoot.
3. Market hunters, and " pot-hunters."
4. " Plume hunters," and milliner's hunters.
5. " Shooters generally ;" farmers.
6. Egg collecting, chiefly by boys.
7. The English sparrow.
8. Clearing off timber ; development of towns and cities.
9. Italians and others who devour song birds.
10. Cheap firearms.
11. Drainage of marshes.
12. Non-enforcement of game laws.
13. Gun clubs ; hunting contests, or " side hunts."
14. Trapping birds for sale alive.
15. Prospectors, miners and range riders.
16. Collectors (ornithologists and taxidermists).
17. Colored population.
18. Indians (for decrease of game animals).

## NEW ENGLAND STATES.

Locality	Name of Observer, and Digest of Report.	
<i>Maine :—</i>		
Calais,	George A. Boardman,	"Some kinds all gone, average probably half gone." 5, 7.
Portland,	Henry H. Brock,	"Some cases $\frac{1}{2}$ remain, in others $\frac{1}{3}$ ." 3.
Portland,	Nathan Clifford Brown,	"Decreasing." 1, 6, 8.
Brewer,	Manly Hardy,	"Decreasing; $\frac{1}{10}$ to $\frac{1}{2}$ remain." 5, 6, 7, 4.
Bangor,	S. L. Crosby,	"Undoubtedly decreasing; $\frac{1}{2}$ remain." 2, 6.
<i>New Hampshire :—</i>		
Antrim,	B. W. Small,	"One-fourth remain." 5, 2.
Milford,	J. P. Melzer,	"No special change observed."
Lancaster,	F. B. Spaulding,	"Many important species have decreased $\frac{1}{2}$ ." 2.
Peterboro,	Prof. A. B. Call,	"Many species have decreased; a few increased."
Francestown,	J. H. Johnson,	"Game birds half gone; decrease in others."
<i>Vermont :—</i>		
Johnson,	Prof. J. B. Ham,	"A visible decrease."
St. Albans,	Mrs. Nelly Hart Woodworth,	"Some species have increased; many have decreased. General decrease about 30%." 6, 7.
St. Albans,	Geo. E. Edson,	"Birds are growing less in number." 5, 7.
St. Albans,	R. J. Gunn,	See report on hunting contests.
<i>Massachusetts :—</i>		
West Newton,	Geo. H. Clark,	"Birds are decreasing; $\frac{1}{2}$ remain." 1, 5, 8, 11.
Cambridge,	Wm. Brewster,	"Nearly all game birds, water fowl and large raptures decreased 10% to 80 or 90%." 1, 9, 16, 7.
Worcester,	Wm. G. Allen,	"One-half as many birds now." 8, 3.
Springfield,	Everett H. Barney,	"Largely decreasing, $\frac{1}{2}$ remain." 9.
Cambridge,	Chas. F. Batchelder,	"Birds breeding near Cambridge show little difference in number." 10, 2, 9, 12.
Ponkapog,	C. W. and J. H. Bowles,	"Bird life stationary." 5.
Stoneham,	C. J. Emerson,	"Three-fourths of the birds remain." 6.
Melrose,	E. F. Holden,	"Decreasing; three-fourths as many as 10 years ago." 8.
Boston,	F. B. Webster,	"Can see no practical decrease in bird life; fully as many birds as 15 years ago. Cannot see that any class of men are doing that which would amount to an item in the destruction of song birds. Except as to woodcock, game protection seems to enable the game birds to hold their own against the sportsmen."

- Pittsfield, T. A. Schurr, "Some birds are decreasing, others not. Some have decreased  $\frac{1}{2}$ ; some  $\frac{2}{3}$ ." 2.

*Rhode Island :—*

- Providence, James M. Southwick, "Only  $\frac{1}{2}$  as many birds remain. Cheap and extended railroading carries the destruction everywhere, spring, summer and winter, and the poor creatures have nowhere any rest." 9, 6, 8, 10, 2.
- Providence, Newton Dexter, "There are not now  $\frac{1}{4}$  as many [birds] as formerly." 6, 2, 16.
- Providence, W. H. Mason, "About  $\frac{1}{3}$  as many birds now. Song birds and game birds becoming extinct." 8, 4, 7.
- Pawtucket, Wm. H. Lewis, "Birds have decreased here  $\frac{1}{2}$ ." 2, 3.

*Connecticut :—*

- Fairfield, Mrs. Mabel Osgood Wright, "We have not a quarter as many of these kinds [game birds, meadow-nesting song birds and marsh birds] as ten years ago." 6, 8, 12.
- Portland, John H. Sage, "Game birds particularly are decreasing; about  $\frac{1}{4}$  remain." 1.

*New York :—*

- Lynbrook, Long Island, Geo. B. Badger, "About one-fourth of the birds remain. The local gunners and oyster watchmen are *eating up everything*. Slaughtering everything that wears feathers; even gulls, divers and meadow-larks, as many as can be killed." 1, 5, 8.
- Bay Ridge, Long Island, Wilmot Townsend, "Of resident forms in general,  $\frac{1}{3}$  remain. Wild pigeon, quail, woodcock and meadow-lark are becoming extinct; hawks much fewer; owls practically nil." 8.
- West Park, John Burroughs, "Except bobolinks and eagles, birds not fewer than 20 years ago."
- Bedford Park, New York City, Hon. W. W. Niles, Jr., "We have not  $\frac{1}{4}$  of the number of 15 or 20 years ago." 8, 7, 5.
- Penn Yan, Verdi Burtsch, "Probably  $\frac{2}{3}$  as many birds as 15 years ago." 2, 5, 8.
- Mayville, A. E. Kibbe, "Only one-half the birds remain. Chief cause, wholesale collecting of eggs by boys." 6.
- Lowville, James H. Miller, "Song birds especially becoming scarcer every year, due to the everlasting craze of small boys for egg collecting." 6, 7, 8.
- Albion, W. F. Webb, "Birds not decreasing."
- Piseco, Ceylon Clark, "Ruffed grouse decreased  $\frac{2}{3}$ , from a small tick on the heads of young birds."

*New Jersey :—*

- Beverly, J. Harris Reed, "Decrease of  $\frac{1}{2}$  a fair estimate." 8, 2, 1, 5, 4.

- Maplewood, C. B. Riker, "Decrease of  $\frac{1}{4}$ ." 8, 2, 7.  
 Plainfield, John T. S. Hunn, "Do not think summer-resident birds are decreasing. Becoming extinct: all migrating water fowl, and interesting species of hawks and owls." 5.
- Pennsylvania* :—  
 Carnegie, Dr. R. L. Walker, "Decrease of  $\frac{2}{3}$ . Scarlet tanagers, bluebirds and purple martins are things of the past." 9, 7, 16.  
 Williamsport, Chas. H. Eldon, "Birds are fully  $\frac{1}{2}$  less." 2, 3.  
 Philadelphia, Witmer Stone, "Impossible to give general estimate of decrease." 8.  
 West Chester, Josiah Hoopes, "Some species decreasing, some increasing. Can not estimate. House wren, bluebird, night hawk and hairy woodpecker almost obliterated." 6.  
 Waynesburg, J. Warren Jacobs, "Generally speaking, birds are decreasing. Some species are increasing, but the accession is not sufficient to overcome the falling off in others. Birds remaining, over  $\frac{1}{2}$ , but not  $\frac{2}{3}$  of the number 15 years ago. Hawks are recovering from the 'Scalp Act,' but many farmers are still prejudiced against them." 2, 6, 1.

## CENTRAL NORTHERN STATES.

- | Locality          | Name of Observer and Digest of Report.   |
|-------------------|--|
| <i>Ohio</i> :—    |  |
| Toledo,           | D. B. Davis, "Birds very rapidly decreasing; not more than $\frac{1}{2}$ remain." 8, 2.  |
| Salem,            | J. H. C. "Practically no game here. 'Game hogs' have done the work." 3, 1.   |
| Cincinnati,       | Dr. F. W. Langdon, Some kinds are decreasing. No general estimate. 8.  |
| Oberlin,          | Lynds Jones, "Great decrease in all ducks and ruffed grouse, even in last 3 years." 17, 2, 5.  |
| Canton,           | R. H. Bulley, "Bird life in general not decreasing, but some species are. Ducks 10% decrease." 11.   |
| <i>Indiana</i> :— |  |
| Sedan,            | Mrs. Jane L. Hine, "Decrease in bird life $\frac{1}{3}$ , possibly $\frac{1}{2}$ . Side hunts occur occasionally on Thanksgiving." 8, 5, 6, 16, 13.  |
| Indianapolis,     | W. S. Blatchley, "Decrease in bird life $\frac{1}{2}$ ." 1, 2, 3.  |
| "                 | Fletcher M. Noe, "All birds are very scarce in this locality. Only the most hardy species remain. As compared with 15 years ago, only $\frac{1}{10}$ as many." 2.  |
| Brookville,       | Prof. A. W. Butler, "Decreasing, but impossible to state proportions. Becoming extinct: wild turkey, prairie chicken, ruffed grouse, wild pigeon, white heron, raven, purple martin, eave swallow, bluebird." 8, 11. |

*Illinois* :—

- Chicago, Benj. T. Gault, "Decided decrease in bird life, both as to numbers and species. Proportions difficult to estimate, because it varies from a slight falling off of some species to an entire disappearance of others. Decrease from natural causes has been compensated by a corresponding increase of other forms; so man's devices are responsible for the net loss. The crow is reported as a great nest robber, very destructive to the eggs of the pinnated grouse. Many species are named as becoming rare, or already extinct. Remedy proposed: "Do away with spring shooting and make market hunting illegal." 8, 7, 2, 5, 1.
- Chicago, Prof. F. M. Woodruff, "Decrease,  $\frac{1}{4}$  in passerines,  $\frac{1}{2}$  in water fowl. *Ardea egretta* and passenger pigeon entirely gone." 1, 3.
- Warsaw, Chas. K. Worthen, "Birds about half gone. Most home birds driven to forests by English sparrow, which is increasing frightfully, and proving a greater curse as they increase." 3, 5, 2.
- Terra Cotta, Robert Knetsch, "Decrease is surely an indisputable fact; about  $\frac{1}{4}$  to  $\frac{1}{2}$  remain. Many town 'sportsmen' shoot every bird seen 'for the sake of sport.'" 8, 1.
- Terra Cotta, Isaac E. Hess, "We are so fortunate as to have  $\frac{3}{4}$  of our numbers of ten years ago. Very few birds are killed in this vicinity. Our active ornithologists would rather shoot with opera glasses than firearms. Summing up, I find 23 species are decreasing, 13 species with numbers about the same, and 31 species are gradually or rapidly increasing." [List given of each class.]
- Lacon, R. M. Barnes, "General decrease, about  $\frac{1}{3}$ ; of geese, ducks and swan  $\frac{2}{3}$ ; bluebirds  $\frac{1}{10}$ ." 3.

*Kentucky* :—

- Lexington, Prof. H. Garman, "Not half as many birds here as there were in Ill. when I collected in 1877-1881." 5, 2, 6.

*Tennessee* :—

- Nashville, William Osburn, "Fully as many birds as six years ago. Hunters destroy doves, bob whites and robins."

*Michigan* :—

- Detroit, R. J. Cram, "Water fowl generally have decreased in number, almost to total extinction. Certainly not more than  $\frac{1}{4}$  as many seen now in Mich. as were seen 15 years ago." 3.
- Battle Creek, Fred. Wells, "Birds generally decreased about  $\frac{1}{4}$ . Sparrow bounty law results in the killing of many sparrows not English. Destruction of game birds very great, and all species disappearing. 5, 1, 8.
- Kalamazoo, Dr. Morris Gibbs, "Not  $\frac{1}{2}$  as many birds as 15 years ago. . . . All the ducks are much fewer, as well as the shore and all game birds." 8, 11, chief causes.

- Sault Ste. Marie, Chase S. Osborn, "Birds are increasing; nearly twice as many, or quite, as 15 years ago." 2.
- Sault Ste. Marie, J. H. Steere, "As a whole, birds are decreasing. Have perhaps decreased  $\frac{1}{4}$  to  $\frac{1}{2}$ . Most of the destruction has been by hunters amongst the game birds." 1, 3, 5.
- Greenville, Percy Selous, "Except a few species, birds are decreasing. Wild turkey, sandhill crane, wood-duck and birds of prey fast disappearing." 3, 8, 11, 12.
- Bay City, Newell A. Eddy, "Water fowl have greatly decreased, through persistent persecution. Shore birds increasing, owing to waters of Saginaw Bay receding. City birds driven out by English sparrow; sparrow now being destroyed for bounty. One small roost of wild pigeons reported near Flint in 1896." 1, 8.
- Iron Mountain, E. E. Brewster, "Birds are about holding their number." 9.

*Wisconsin:—*

- Milwaukee, Prof. H. Nehrling, "Birds are decreasing fearfully in this locality. . . . Where, in the days of my boyhood, thirty-five years ago, orchards and woodlands were ringing with bird music, silence seems to reign supreme in these last years of the century. . . . Of many of the birds named [our finest song and game birds] scarcely  $\frac{1}{4}$  are to be found now, while of numerous other species scarcely  $\frac{1}{10}$  or even  $\frac{1}{20}$  are to be met with to-day." 2, 5, 3, 1, 4, 7, 9.
- Milwaukee, Prof. R. M. Strong, "Birds have decreased very greatly. . . . Shooting by men and boys is a very destructive practice, and one that might be stopped." 7, 6, 2.
- Milwaukee, John A. Brandon, "Birds are decreasing, apparently decidedly so." 2, 7, 16.
- Fox Lake, Geo. A. Morrison, "One-half as many birds as formerly. Indiscriminate shooting, both spring and fall, has caused a great decrease in upland game birds and ducks. Spring shooting should be stopped." 1, 5.
- Waukesha, Clarence P. Howe, "Have noticed a marked decrease in the bird fauna around Waukesha within the last 5 years." 16, 6.
- Ripon, E. Morgan Congdon, "Only game birds decreasing perceptibly." 2, 5, 8.
- Delavan, N. Hollister, "A favored locality! Very little decrease, save of a few conspicuous species. No milliner's hunters, few sportsmen and hunters, boy egg-collectors few and far between, only one ornithologist: good breeding grounds.
- Milton, Prof. Ludwig Kumlien, "I could not give the percentage of decrease for the state as greater than 30% in 15 years; locally it seems greater. If one goes back 25 to 35 years, I should say it might amount to 50% for settled portions of the state. The



shore birds have decreased more than any other order. Ducks have held their own fairly well, considering that they may be legally slaughtered in spring, after they have *mated*, (up to May 1), in both Wisconsin and Illinois . . . Ruffed grouse have suffered, no doubt, to an extent (locally) of 75% and more. . . . Laws have forbidden hunting prairie chickens with dogs, and this, with drier weather in May and June, has been favorable to them. . . . A very few passenger pigeons still linger—a 'mere trace.' Gulls and terns have decreased very markedly. . . . 1, 16, 4, 7. [Remedy proposed]: *Abolish spring shooting, make it impossible for boys to procure permits, do not allow the taking of eggs at all, put a bounty on the English sparrow, and let nature take its own course.*"

*Minnesota :—*

- Lanesboro, Dr. J. C. Hvoslef, "Some species are decreasing. Swimming and wading birds have decreased very much, since the country has become so remarkably much drier. Hunting has not had much to do with it."
- St. Paul, Walton I. Mitchell, "Birds are not noticeably decreasing, except in certain cases. Total decrease, perhaps one-tenth. Becoming extinct: red-headed woodpecker, bluebird, robin and Baltimore oriole." 2.

*Iowa :—*

- Des Moines, A. J. Johnson, Great decrease in birds generally, estimated at  $\frac{1}{2}$ . "Kites and all of the geese, ducks and cranes" are threatened with extinction. 2, 5, 3.
- Boone, Carl Fritz Henning, "One-third of the birds remain." 3, 7.
- Boone, Hon. Charles Aldrich, "All [birds] are yearly diminishing rapidly. Some species are seldom, if ever, seen. . . . Bobolinks, bluebirds, swallows, shrikes and possibly some others" becoming extinct. "migratory aquatic birds almost never seen." Causes: "Cultivation, the drying-up of rivers, streams, lakes and sloughs, *egg-collecting*, and some shooting." 6, 5.
- Keokuk, Edmonde S. Currier, "Birds as a whole are not disappearing, but, excepting the quail, the game birds, water-fowl, and birds of prey certainly are. Of the raptors  $\frac{1}{2}$  remain; water fowl  $\frac{1}{2}$ ; [upland] game birds not over  $\frac{1}{10}$ !" 1, 5, 8, 11.
- Keokuk, Dr. J. M. Shaffer, Only water fowl and ivory-billed woodpecker decreasing. Wild turkey, prairie chicken and ruffed grouse quoted as becoming extinct. "Quail abundant. Game laws fairly well obeyed. Public sentiment strong in favor of protection of *all* birds, even owls and hawks." 5.
- Keokuk, Wm. E. Praeger, "Leaving out the great increase in the English sparrow, the total [of living birds] would have to be lowered by, say 15 per cent."

Chief causes: "Clearing away timber and underbrush, drainage of marshes, cultivating the prairies." Many important species are named as having become very rare. "Wolves are on the increase!" 8, 11, 1, 5.

Hillsboro, Walter G. Savage. "Birds are increasing. . . . One-fourth *more* than 15 years ago." Thirteen important species are named as slowly disappearing: mallard, two teals, wood duck, ruffed grouse, prairie chicken, turkey, pigeon, swallow-tailed kite, raven, pileated woodpecker, myrtle warbler, and tufted titmouse. 1, 5.

*Missouri:—*

Mexico, J. N. Baskett, Three fifths of the birds remain.  
8, 11, 14.

Old Orchard, St. Louis Co., O. Widmann, No general estimate, but a long list of birds have decreased,—some 25%, some 50%. Dickcissels have increased. 1, 2, 3, 5, 8.

St. Joseph, Sidney S. Wilson, Birds undoubtedly decreasing— $\frac{1}{6}$  in the last 5 years! 2, 1.

*Kansas:—*

Manhattan, Prof. D. E. Lantz, As to whole number, birds are increasing. Nineteen species are more numerous than 15 years ago. But all wild ducks, geese, cranes, hawks, owls, curlews, the pinnated grouse, ruffed grouse, turkey, pigeon, 2 eagles, raven, black vulture and 7 small species have decreased, some being really extinct. 3, 5, 7.

Manhattan, C. W. Pape, As to whole number, not decreasing; but many species are, notably water birds, shore and marsh birds. The orders after *Columbae* are about holding their own; those preceding, "decreasing on the whole. Deep snows are one cause." 3.

Lawrence, Prof. L. L. Dyche. All game birds, except quail, decreasing. More quails than ever before. [See "Reports on Game Birds," page 84.] Pinnated grouse being exterminated by market and pot-hunters who use dogs. "Stop the hunting with dogs, and the chickens would increase." Song birds have held their own in the fields and forests, but (excepting the blue jay) have been driven out the towns by the English sparrow. "Sportsmen as a rule are very considerate; they are usually satisfied with a reasonable number of birds. All large mammals and many small ones becoming extinct." 3.

Garden City, Guy B. Norris, Birds are decreasing; several species conspicuously so. "There are about  $\frac{1}{4}$  as many birds here now as ten years ago." Birds are almost all migrants; number fewest in dry season. 2, 16, 13.

Wichita, Chas. Payne, Birds are increasing. Cause: stringent game laws, that really are enforced. No quail can be sold in the state, nor any game exported, save for scientific purposes.

*Nebraska :—*

Lincoln, Prof. C. E. Bessey, "Game birds of nearly all kinds, especially geese and ducks, have decreased; others have held their own. Robins have greatly increased."

Hay Springs, C. A. Waterman, "Some kinds have not decreased; some have very much. Wild ducks, geese and other water fowl have decreased  $\frac{1}{2}$ ." 3, 5.

*North Dakota :—*

Mandan, J. D. Allen, "Birds have decreased about  $\frac{1}{2}$ ." 5, 1.  
Becoming extinct: moose, elk, mountain sheep, beaver, otter, wolverine, sage grouse. Buffalo already gone.

Sanborn, Geo. F. Carl, "Not  $\frac{1}{4}$  as many small birds as 10 years ago. *All* are decreasing."

Medora, Howard Eaton, "Yes, birds are decreasing. Three-fourths decrease in pin-tail grouse,  $\frac{1}{3}$  in magpies,  $\frac{1}{2}$  to  $\frac{3}{4}$  in blackbirds,  $\frac{3}{4}$  in sage grouse. [Cause:] Market hunters; and poison for the magpies. Buffalo and elk *gone*, beaver *almost* wiped out; sheep, mule deer, antelope and otter, ditto; golden eagles nearly gone, by poison. Wolves, coyotes and prairie dogs are increasing." 3.

## SOUTHERN STATES.

*District of Columbia :—*

Washington, William Palmer, "About  $\frac{2}{3}$  of the land birds and  $\frac{1}{4}$  of the water birds remain. Immediately about Washington, birds [in general] have decreased  $\frac{1}{2}$ . I might say  $\frac{1}{2}$ , but fear that would be a little over the mark." 8.

*Maryland :—*

Baltimore, F. C. Kirkwood, "Some species decreasing, others not. Ducks are getting much fewer." 8, 11.

Laurel, Henry Marshall, "Land birds have decreased  $\frac{1}{2}$ ." 8, 2.

*Virginia :—*

Blakesburg, Prof. E. A. Smyth, Jr., "A scarcity of hawks, but in six years have noticed no diminution in other bird life, generally."

*West Virginia :—*

Charleston, W. S. Edwards, "Quantity of bird life about the same as 15 years ago."

*North Carolina :—*

Haslin, Beaufort Co., Fenner S. Jarvis, "More birds now here than for many years. I am sure we have  $\frac{1}{2}$  as many more here. The foxes, minks and hawks are the birds' worst enemies."

Raleigh, C. S. Brimley, "In 17 years can see no decrease in the numbers of birds in this locality, save of bluebirds—killed by the cold winter of 1895. No market hunters here; no collectors save myself. Less shooting done here than 10 years ago. I think the low price of cotton has impoverished

the small boy and negro; otherwise they would do damage. The pileated woodpecker is still found within 5 miles of Raleigh! Deer and bear are found nearly all over the state, and wild turkey in this county—the most populous in the state. In the east, the terns and shore-birds have been very largely killed out by the plume hunters, who do not come here."

Littleton, Harry H. Thorne, "I do not think there has been a perceptible decrease in the number of birds within the time mentioned, with perhaps the exception of game birds."

Deal's Island, Carrituck Sound, M. Corbel, "In this locality and the bays of Virginia, during the past 10 years, the wild fowl—canvas-back ducks, red head, and all other kinds—have decreased  $\frac{1}{4}$ . Swans have almost disappeared. Causes: float shooting, shooting from sail boats, fire-lighting and shooting at night.

*South Carolina :—*

Charleston, Prof. E. A. Smyth, Jr., All species reported upon greatly reduced in numbers. "All herons nearly exterminated." Some species now regaining their numbers somewhat. Both the herons and terns have been destroyed en masse by plume-hunters—local and from Florida—but winter gulls still remain. "The flocks of ducks wintering in the harbor are less than  $\frac{1}{10}$  of what they used to be." Black skimmer,  $\frac{1}{2}$  remain; various sandpipers,  $\frac{1}{4}$ ; long-billed curlew, 10 where there used to be 500! 4, 6, 14.

Charleston, H. C. Cheves, "Some varieties have decreased very much, others little. Taking all together, should say there are about 20 per cent. less than 15 years ago. . . . Greatest loss has been amongst migratory varieties." 4, 3, 14.

Mount Pleasant, Arthur T. Wayne, "Birds are decreasing in my locality. About  $\frac{1}{4}$  the number are here now. . . . The least tern and snowy heron are *entirely extinct*. They bred abundantly here in 1885-1887." 4.

Columbia, John T. Tennant. "On an average, bird life is about as plentiful as it was 15 years ago. 5, 17.

*Florida :—*

Osprey, Manatee Co., John G. Webb, "Yes, birds are decreasing. Compared with the number 30 years ago, there are not over 10 per cent. Compared with 15 years ago, I should say 25 per cent. The destroyers are the men who sell plumes and birds' wings to northern dealers. The rookeries have been destroyed. Twenty years ago, an ornithologist observed 16 species of herons and egrets in two weeks around my place. *You would not now see 16 birds (individuals) in a whole year!* They have been simply annihilated. A stray one comes along but rarely." 4.

- Punta Gorda, J. L. Sandlin, "Birds of all kinds are at least  $\frac{2}{3}$  less than 15 years ago, and some very nearly extinct. The flamingo, that used to stand in flocks of 50 to 200, are now not to be found at all. The egret, roseate spoonbill, turkey, deer and alligator, not so many by  $\frac{2}{3}$ ." 4, 3.
- Myers, E. M. Rennolds, "Wild turkeys and migratory birds have decreased one-half. Ducks have decreased 500 per cent. in the time mentioned. The plume birds are decreasing faster than any others; about  $\frac{1}{10}$  as many as 15 years ago. . . . *If the present state of affairs continues for 15 years, I think I could safely say that all [birds] would be extinct, or practically so, except the quail.*" One contributing cause, Seminole Indians. 4.
- Grant, Brevard Co., Miss Q. H. Latham, "Birds are decreasing; not  $\frac{1}{4}$  remain. Many birds are shot by tourists. The paroquet is nearly extinct. Hunters say there are only 3 flocks known to remain in the state. Very few egrets remain, as Indians hunt them regardless of the bird laws—but the white men are as guilty as the red men." 4.
- Tarpon Springs, W. S. Dickinson, "Of the smaller birds, not over half as many as 10 years ago. Of egrets and herons, not  $\frac{1}{10}$ ." Cause for decrease of small birds, unknown; others, 4.
- Ozona, Oliver Tinny, "Birds are decreasing in our locality. Not over  $\frac{1}{4}$  as many now as 15 years ago." 3, 4.
- Tallahassee, Prof. F. W. Talley, "I think birds have decreased  $\frac{1}{3}$  within the past 15 years." 2, 4.

*Georgia:—*

- Augusta, C. D. Perkins, Decreasing; "about  $\frac{1}{2}$  as many." 17, 3.
- Augusta, A. H. Miegel, Decreasing; about  $\frac{1}{10}$  as many. "Have known white men to kill a whole covey of half-grown quail as they were huddled on the ground. Have known them to kill doves off the nest. Negroes in this section kill every kind of bird they can point their loaded pot-metal at, in or out of season. Becoming extinct: quail, doves, summer ducks, woodcock, yellow-hammer." 17, 3, 5.
- Kirkwood, Robert Windsor Smith, Birds are decreasing. One-half remain. Bob white is the only game bird here. . . . Larks and robins are killed in winter, mostly by boys. The game laws are not enforced. 1, 8.
- Macon, Dr. H. McHatton, "Birds and game of all kinds are decreasing very rapidly here. Taking birds of all types, not over  $\frac{1}{4}$  remain. [Causes]: shooting in the breeding season, market hunting, and the rapid increase of hunters of all classes. . . . In this section there are not more than  $\frac{1}{10}$  of the ducks there used to be, and geese and swans are things of the past."

*Alabama :—*

- Birmingham, Robert Y. Jones, Birds are decreasing. One-fourth of the quail remain. No ducks at all. Deer are getting very scarce, wild ducks almost extinct. One cause, non-resident shooters. 3.
- Auburn, C. F. Bachus, Residence too short to afford an estimate. "Negroes and college boys shoot doves. English sparrows drive many birds out of town."

*Mississippi :—*

- Moss Point, C. H. Wood, "Birds have decreased at least  $\frac{1}{2}$ . The most potent cause is the rapidly increasing fondness for hunting, and desire to kill, by men and boys." 5, 2.
- Leggett, W. W. Leggett, "Some birds have decreased  $\frac{1}{2}$ , some  $\frac{3}{4}$ ." Becoming extinct: quail, ducks, turkey, deer. 3.
- Moss Point, J. A. Hatlestad, "Apparently birds are not decreasing. None are becoming extinct."

*Louisiana :—*

- New Orleans, Gustave Kohn, Birds are decreasing. There are now about  $\frac{1}{4}$  in comparison with 15 years ago. No attention is paid to the state laws for the protection of small birds, and there are no state officers to enforce them." 17, 3, 14.
- New Orleans, Prof. H. Nehrling. See "Reports on Game Birds."
- New Orleans, Andrew Allison, "I think that birds are not perceptibly decreasing. . . . Immense numbers of nonpareils and indigo buntings are caught every spring, cardinals at all times, and some goldfinches in winter. The number of painted and indigo buntings in the New Orleans bird stores in spring and summer is appalling. Have seen the following species in bird stores: blue grosbeak, indigo bird, Baltimore oriole, rose-breasted grosbeak, cardinal, mocking-bird, green jay, troopial, cedar bird and others. . . . A pernicious agency for the practical destruction of thousands of our native birds." 14, 3.
- Avery, John A. McIlhenny, Game birds and "plumage" birds greatly decreased in number. Geese, ducks, snipe,  $\frac{1}{10}$  of what were here 15 years ago. 3, 4, 10.

*Arkansas :—*

- Helena, Mrs. Louise McG. Stephenson. "Yes, birds are decreasing. There are not  $\frac{1}{3}$  in comparison with 15 years ago. Already extinct: paroquet, ivory-billed woodpecker and passenger pigeon. Becoming extinct: bluebirds, cardinals, mockers and indeed all song and gay plumaged birds. All wild creatures are gradually decreasing in number." 3, 5, 17, 4, 10.
- Little Rock, Hon. U. M. Rose, "Birds are decreasing, and about  $\frac{1}{2}$  remain. Becoming extinct: all birds of bright plumage, and mocking birds." 2, 17, 4.
- Imboden, Carrington C. Bacon, "Some varieties are decreasing. Decrease of wild turkey, 40%; herons, 40%; ducks,

33%; bluebirds, 50%; deer, 50%. Decrease of deer due to hound-hunting, and clearing up of their ranges; also killing in snow (in violation of game laws), as they become quite gentle in the summer months. Bears rapidly disappearing; found only in thick cane-brakes of bottom lands. 4, 3, 12.

*Texas* :—

San Antonio. H. P. Attwater: "Birds are undoubtedly decreasing, some species more than others. Probably  $\frac{2}{3}$  remain. Becoming extinct: prairie hen (several terns, herons and egrets on the coast), black bear, jaguar, antelope, beaver, golden eagle and bald eagle; some others rapidly diminishing—such as wild turkey, pelican, deer, puma and others." 5, 1.

Goodnight (Armstrong Co.) Chas. Goodnight. In comparison with the number of birds 15 years ago, there are only one-fourth. All important species of birds and quadrupeds are becoming extinct.

San Antonio. Arthur H. W. Norton. "Have not noticed any great decrease, except in prairie chickens, turkeys and road-runners."

Galveston. A. R. Shearer. "Decidedly decreasing. Based on water-fowl,  $\frac{1}{4}$  [remain] or even less. But land birds have not suffered so much, except *M. gallopavo*. 4, 3, 1.

*Indian Territory* :—

Eufaula. Charles Gibson. "About 9-10 of the birds have been destroyed. The most destructive agency is the white men from near the border of the Indian Territory, who have no right to hunt within our borders. Becoming extinct: bear, deer, turkey, geese, ducks, prairie chickens, quails, squirrels and even rabbits. The country has been overrun with game-hogs, for we have no game laws in the Territory which the white men respect."

McAlester. M. J. Witt. "About  $\frac{1}{4}$  as many birds here now as 20 years ago." 15, 5.

Catousa. M. C. Witmer. "About  $\frac{1}{8}$  as many wild turkeys and prairie chickens. Other birds about the same." 5, 8.

Tulsa. L. C. Perryman. "Prairie chicken nearly extinct. Five out of a thousand remain. Quails,  $\frac{1}{2}$ ; turkeys,  $\frac{1}{10}$ ; destroyed by hunters from outside—whites, not Indians. If the whites who make a practice of coming in here and destroying game are not restricted, there will be no game here in a few years."

WESTERN AND SOUTH-WESTERN STATES AND TERRITORIES.

*Montana* :—

Anaconda. Vic Smith. "Birds have decreased very perceptibly. I very much doubt if there are  $\frac{1}{4}$  as many. . . . Ducks, geese, grouse, sage hen, fool hen and partridge were very scarce this season. I consider the members of the gun clubs responsible for

the decrease in feathered game. There is practically no limit to their killing. Elk, moose, sheep and antelope are scarce enough, I assure you ; but this is owing to the Cree Indians, from Canada. For several years they have slaughtered the game, and caused our state plenty of trouble. Last year we deported the whole of them (about 2,000) to Canada, but they are all back here now, and have been murdering the game, last fall and summer,—and are at it now." 13.

Red Lodge, G. H. Heywood. "Not one-fifth of the birds remain. Cause: dudes from the East, who call themselves sportsmen."

Orlando. M. P. Dunham. "Without doubt, all kinds of game animals, as well as birds, are getting less every year. The members of the rod-and-gun clubs are responsible for the birds. They kill more game per man in a week's hunt than a hunter will in a whole season. . . . The animals are disappearing about alike, except the goat. If anything, however, the antelope are getting it the worst of them all." Much large game is destroyed by attempts to capture full-grown elk, deer and moose alive. 13.

Great Falls, R. S. Williams. "Water-fowl have decreased greatly; also sharp-tailed grouse. Less than  $\frac{1}{4}$  remain. Many animals are becoming scarce, but I presume only the buffalo is threatened with extinction." 1, 2, 3, 5.

*Wyoming* :—

Cheyenne. Frank Bond. "Our situation here is unique and exceptional. Sixteen years ago native birds were far less abundant in Cheyenne than at present. Owing to tree planting, Cheyenne is now one large grove—a veritable 'oasis in the desert.' With the growth of trees came the birds, until now the city is the summer residence of hundreds of birds, where 16 years ago there were but few. Migrants, both spring and fall, are correspondingly numerous. I have been chiefly instrumental (if you will pardon the apparent egotism) in creating public sentiment in favor of our native birds,\* and we have no class or special agency engaged in their destruction. . . . My only battle here in Cheyenne is with the English sparrow, which, by the use of poisoned grain and a shot gun, I have prevented from getting a permanent foothold among us. I find there are between 50 and 100 in the city now, but I expect to get all of them before spring."

Ten Sleep, Big Horn Co. Mark H. Warner. "Game birds have decreased about  $\frac{1}{2}$ . Don't know the reason. Becoming extinct: bear, elk, antelope and willow grouse. *Bear, elk and antelope will be gone in about three years!*"

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\*Mr. Bond is editor and manager of the *Wyoming Daily Tribune*, and his example and his success are commended to the attention of other editors.



Ishawood, Big Horn Co. Jas. L. McLaughlin. "Birds are slowly decreasing in this section. About  $\frac{2}{3}$  as many as 9 years ago. No particular class of men responsible. Ruffed grouse are fewer than any other. Small birds are seldom disturbed. Elk, mule deer and mountain sheep are about one-half as plentiful as they were 10 years ago. Moose and antelope are about one-third. Skin hunters are responsible for their destruction. Still quite a lot of antelope in the Big Horn basin."

Cora. Ira Dodge. "Birds are increasing in Wyoming. Cause: Increased settlements and food. Present yearly decrease of antelope, 20%; black-tail deer, 10%; black and grizzly bears, 10 to 15%; mountain sheep (by hard winters and varmints), 10%. Moose, none. Coyotes, increasing. In my opinion, with improvement in our game laws, none of our game animals need become extinct—except the bison."

Douglas. Dr. Mortimer Jesurun. "No decrease [in birds] except of sage grouse and sharp-tailed grouse. Half as many of the former, one-tenth as many of the latter. There is no market-hunting of birds, Elk are almost extinct in eastern third [of the state] where 10 years ago they existed in abundance." 1, 5.

Yellowstone Park. Elwood Hofer. The rapid increase of coyotes and gray wolves threatens the destruction of all the antelope in the Park. The coyotes are very bold, and run down and kill antelope within sight of the town of Gardiner. But for the coyotes there would now be 1,000 antelope in the Park.

*Utah:—*

Salt Lake City. Prof. Marcus E. Jones. "Birds are increasing in number in Utah. Grouse of all kinds are about at a stand-still. Ducks are decreasing, due to hunting. Quail and gulls are increasing, due to protection. Blackbirds and the like are increasing, and no species of birds are becoming extinct. Buffalo and mountain goat, all extinct. Mountain sheep, white-tailed deer, black bear and timber wolf are nearly extinct."

*Colorado:—*

Ft. Collins. Prof. W. W. Cooke. "The birds of this, an irrigated region, have increased decidedly, and are still increasing. Probably fully double. [Becoming extinct]: Turkeys, sharp-tailed grouse, and ruffed grouse."

Ft. Collins. William L. Burnett. "I have been a resident here for 15 years, and from field observations in this region I say birds are decidedly on the decrease. About  $\frac{1}{2}$  remain. [Cause]: Boys from 12 to 20, who shoot everything in sight, especially the common birds. Elk, deer, antelope, mountain sheep and most of the smaller mammals are becoming very scarce; also the common birds, as mountain bluebird, western robin, western meadow-lark, house finch, red-shafted flicker, Bullock's oriole and barn swallow."

- Pueblo, W. F. Doertenbach, "Warblers, thrushes, sparrows and other small birds have increased, but doves, passenger pigeons, ducks and other native game birds have decreased. . . . Antelope, mountain sheep and elk rapidly diminishing." 1, 3.
- Buford, J. M. Campbell, "No perceptible decrease in birds, except geese, ducks and grouse, of which there are  $\frac{3}{4}$  as many. Buffalo are practically extinct, and beaver becoming so. With proper legislation, and attention from game wardens, our big game will last a long time—if the Indians can be kept off the winter range of deer." 1, 5.
- Dotsero, J. T. Meier, Game birds have decreased about three-fourths; other birds have increased nearly  $\frac{1}{2}$ . Natural enemies, especially hawks, very destructive to grouse.
- Colorado generally, B. G. Voigt, "Yes, birds are decreasing. About half remain. 9, 15, 2. Becoming extinct: ptarmigan, all species of grouse, brown creeper and lazuli finch; beaver, antelope and elk. Cannot tell how long antelope will last. There are more killed by coyotes than sportsmen. I saw five attacked in one day, and two were killed. Mountain sheep are on the increase. Saw one bunch of 35 at —, and several bunches of from 5 to 12 near —. Saw one mountain goat in 9 years."
- Beulah, D. P. Ingraham, "Except migratory and game birds, the birds are not materially decreasing. All mammals are becoming rare. Becoming extinct: dusky grouse, deer, elk, mountain sheep, beaver and antelope. Buffalo entirely gone. So far as birds are concerned, I think the game law was framed by and in the interest of sportsmen." 1.

*Arizona:—*

NOTE.—It is apparent that in this territory, bird life is very sensitive to climatic and food conditions. The margin on which the birds survive is so narrow that it is easily disturbed.

- Tucson, Herbert Brown, "Quail in former times were very numerous, now equally as scarce. This decrease is not attributable to hunters, but to two successive seasons of drought, and the destruction of vegetation by an overstock of cattle. Other birds have probably been driven from the country through like cause. The past several seasons have been favorable for vegetation, and as the ranges have been practically stripped of stock, bird life is rapidly returning. . . . Indian market hunters were fast killing out the big game, but that is now prevented."
- Phoenix, Geo. F. Breninger, [Only two years a resident.] "From what I have been told, Gambel's quail were once much more numerous than now. Wild turkey were common throughout the timbered mountains on the border, now one can scarcely be seen. Ducks stop now only far down on the Gila. We all know that game birds and mammals are decreasing; the number slain each year, together with deaths through natural

causes, is far greater than the increase. . . . Tourists who come to Phoenix for the winter, kill birds indiscriminately, regardless of species."

Fort Huachuca, R. D. Lusk, "Nearly all birds have greatly diminished. In the years 1892 to 1895, there was a serious drought. By the close of the latter year, quail and rabbits had almost disappeared from the mesas, and valleys and mountains—but not so markedly from the valleys. Man was not the agent. Now, two years of plentiful vegetation has brought them fully up to the old numbers. The black-tail deer have nearly disappeared from the mesas and foothills, and the peccaries from the mountains. Agent,—man."

*Idaho :*

Lake, R. W. Rock, "Birds are decreasing very fast in this locality. About  $\frac{1}{10}$  as many as 15 years ago. So-called sportsmen are responsible for their destruction. Swans, ruffed grouse, buffalo, caribou and moose are very scarce here, and nearly extinct." 1.

Arangee, G. W. Rea, "Birds are decreasing in numbers. About  $\frac{1}{2}$  as many as 15 years ago. Cause: hogs that call themselves sportsmen, from the eastern states, who kill the birds to see them fall. Becoming extinct: swan, pelican and sand-hill crane. Sage grouse are not becoming extinct, but have decreased wonderfully in the last 8 years."

Elgin, W. L. Winegar, "There are more birds here than 15 years ago. In our section man has not been destructive to them. Some of the large game is becoming extinct, through hard winters, and the settling up of their wintering grounds."

*Washington :—A pleasing variation! Birds are increasing!*

Tacoma, C. W. and J. H. Bowles, "From what everyone says, birds have increased very much. Where none used to be, there are quantities now. It is thought that clearing off the woods is the cause. . . . The birds are disturbed by nothing but skunks, and none that we know of are becoming extinct."

Chelan, Okanogan Co., W. C. Dawson, (Time covered, 9 years.) "Birds are increasing—all except the game birds, especially grouse. In eastern Washington the sage grouse seems to be the only bird that is certainly doomed to destruction; but it is still common in certain unsettled tracts. Hunting is for sport or the table, only. . . . The mountain sheep, common 10 years ago, is nearly exterminated. According to all information, the white-tailed deer is no longer found. The [Columbian] black-tailed deer is almost gone. The mule deer is still common, not  $\frac{1}{4}$  its former number left. The mountain goat is still abundant on the higher ranges, but doomed because of its unsuspecting nature. *Of course, with all these it is a matter of a few years only.*"

New Whatcom, John M. Edson, General increase in bird life. Mr. Edson's very interesting report will be found printed in full on page 97.

*Oregon :—*

- Salem, Geo. D. Peck, "Have been in Oregon 5 years. Small birds seem to be increasing here. I think there are  $\frac{1}{2}$  more than when I came. I do not think our native game birds are decreasing very fast. Sportsmen pay more attention to the Mongolian pheasant, *which gives the native birds a chance to increase*. Among birds, the swan will be the first to become extinct; among mammals, the elk and beaver. The bounty paid on small rodents hardly serves to check their increase." 2.
- West Fork, Douglas Co., William Archer, "Birds are as plentiful here as they ever were. They are not hunted to any extent. All the large game of this locality is decreasing, such as elk, deer and goats. Mountain sheep are nearly extinct."
- Caswell, E. L. Howe, "Excepting Mongolian pheasants, birds are decreasing. There are only  $\frac{1}{2}$  as many ducks and geese, and  $\frac{1}{4}$  as many native grouse and pheasants. Cause: pot-gunners, and men who hunt all the time, out of season. The beaver has nearly disappeared, and deer and elk are decreasing."

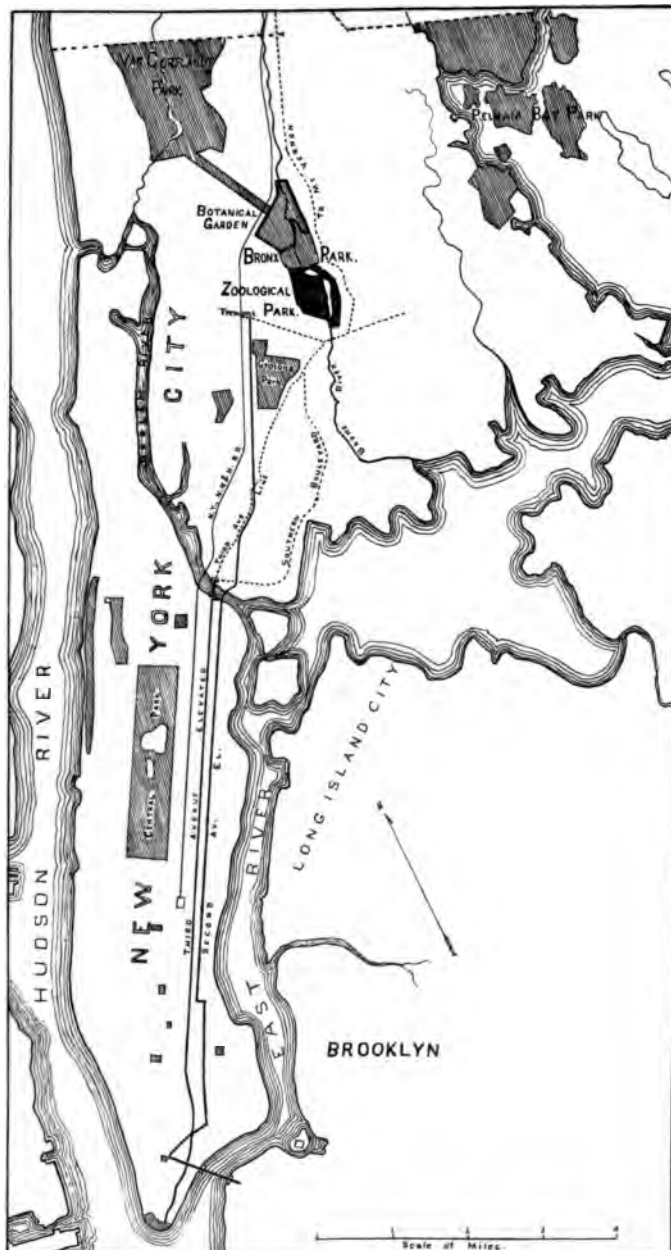
*California :—*

- Oakland, Walter E. Bryant, "With exception of a few species, birds are decreasing. Causes: too many cheap guns and gunners; persistent annual destruction of nests, eggs and nesting sites, and also the systematic slaughter carried on by at least one pseudo-ornithologist." 10, 5, 6, 16.
- Cleremont, Prof. J. F. Illingworth, "No decrease has been noticed in the smaller birds. The game birds, however, are decreasing very fast. The California partridge and the mountain partridge, are only  $\frac{1}{4}$  as abundant as 15 years ago. The mourning dove is also growing very scarce, and the California vulture is almost extinct—by poison and other means. The western meadow lark is getting scarce, *because it is shot as a game bird*." 1, 5.
- Santa Clara, Chester Barlow, "I do not think that bird life in any line is decreasing in the Santa Clara valley. During 10 years' collecting, I have not noted any material decrease, and the conditions conducive to bird life have remained favorable. Raptors, quail, larks and song birds are abundant, and with many of the small species, I believe they increase annually. Few species are molested to any extent. We have no "plume-hunters," few pot-hunters, and it is a satisfaction to know that the majority of the farmers appreciate the services of the most of our birds, and do not shoot them often for other than food purposes."

Visalia, Tulare Co., John Broder, "There is no appreciable decrease in bird life in this part of California, unless possibly it is in ducks. The game laws of California are sufficient to protect all kinds of game birds, and they are well observed by our sportsmen. The 'small boy' is more destructive to bird life than any other class of people. No species of birds, in this locality, are threatened with extinction, but grizzly bear, elk and antelope are almost extinct. [These species were formerly very abundant in Tulare Co.] Deer are being killed off at an alarming rate, and it will be only a few years, at the present rate of destruction, until they too are extinct. Laws are sufficient, but not enforced. In the remote mountains they are killed in season and out of season, and without regard to age or sex."

San Diego, Lyman Belding, Only the game birds are decreasing. Meadow larks and a few other species are increasing. In towns where the English sparrow has located, orioles, black-headed grosbeaks, and other desirable species are seldom heard or seen. The prong-horn antelope and elk are nearly, or quite, extinct. Grizzly bears are getting very scarce; deer also. Washoe Indians are mainly responsible for the scarcity of deer in the Sierra Nevadas. 1, 3.

Southern California, A. W. Anthony, Birds are holding their own very well. Few "hat-bird" fiends have infested the country. Hawks and owls are generally regarded by the farmers as friends, and protected. Jack rabbits and coyotes are growing less abundant near the settlements. Though not nearly so abundant as formerly, deer seem to be holding their own very well. A few antelope and big-horn are still found in eastern San Diego Co., but both are very rare, and can only be regarded as wanderers from Lower California. Sea birds have suffered considerably the past few years through the agency of the guano schooners. The rookeries are raided for guano at all seasons, and during the breeding season eggs or young ones are thrown over the bluffs by thousands. Those not destroyed in that way are eaten by the swarms of gulls that follow to grab the contents of the nests when the shags are frightened away. Dozens of large rookeries have been thus broken up. . . . A few parties have organized to hunt plumbe-birds along the Mexican coast, and have slaughtered a great many herons. One party of men who were looking for a good place to raid in the Gulf were killed on Tiburon Island, about two months ago. Both men well known to me, and had been killing birds in 1896 and 1897.



SKETCH MAP OF NEW YORK CITY,  
SHOWING THE LOCATION OF THE PROPOSED ZOOLOGICAL PARK, AND PRESENT  
MEANS OF ACCESS.

# CHARTER

## OF THE

# New York Zoological Society.

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### CHAPTER 435.

AN ACT to incorporate the New York Zoological Society and to provide for the establishment of a zoological garden in the city of New York.

Accepted by the city. Became a law April 26th, 1895, with the approval of the Governor. Passed, three-fifths being present.

*The People of the State of New York, represented in Senate and Assembly, do enact as follows :*

SECTION 1. Charles A. Dana, Oswald Ottendorfer, Andrew H. Green, William H. Webb, Henry H. Cook, Samuel D. Babcock, Charles R. Miller, George G. Haven, J. Hampden Robb, Frederic W. De Voe, J. Seaver Page, Rush C. Hawkins, David James King, Wager Swayne, Charles A. Peabody, Jr., Charles E. Whitehead, Charles R. Flint, Samuel Parsons, Jr., Mornay Williams, Henry E. Gregory, Isaac W. Maclay, Isaac Rosenwald, Hugh N. Camp, Andrew D. Parker, Cornelius Van Cott, William F. Havemeyer, Frederick Shonnard, William W. Thompson, Alexander Hadden, Edward L. Owen, John H. Starin, Rush S. Huidekoper, William W. Goodrich, Albert H. Gallatin, Frederick S. Church, Edward C. Spitzka, Robert L. Niles, Madison Grant, C. Grant La Farge, William Van Valkenburg, and such other persons as may, under the provisions of its by-laws, become members of the corporation hereby created, are hereby created a body corporate and politic, by and under the name of the New York Zoological Society.

SEC. 2. Said corporation shall have power to establish and maintain in said city a zoological garden for the purpose of encouraging and advancing the study of zoology, original researches in the same and kindred subjects, and of furnishing instruction and recreation to the people, and may purchase and hold animals, plants and specimens appropriate to the objects for which said corporation is created.

SEC. 3. The managers of said corporation shall have power to make and adopt by-laws for the management and government of its affairs and business, for the admission, suspension and expulsion of its members, and for the terms and conditions of membership; to prescribe the number and mode of election of its officers; to define their duties; to provide for the safe-keeping of its property, and from time to time to alter and modify its by-laws.

SEC. 4. The affairs and business of said corporation shall be managed and controlled by a board of managers, the number of whom shall be prescribed by the by-laws. The first board of managers shall be divided by lot into three classes, equal in number, one of which classes shall hold office for one year, another for two years, and the other for three years ; and all persons elected to be managers at any subsequent election shall hold office for three years, and until others are elected in their stead. There shall be a president, two vice-presidents, treasurer and secretary, to be elected by the board of managers annually, who shall hold office until others are elected in their stead. The first meeting under this act may be held at any time upon a notice of five days, signed by any five of the incorporators named in the first section of this act, fixing a time and place for such meeting, a copy whereof shall be mailed to each of said incorporators at his usual post-office address, and twelve of such incorporators shall be a quorum for the purpose of organization, adoption of by-laws and election of officers. No manager of said corporation shall receive any compensation for his services, nor be interested, directly or indirectly, in any contract concerning its property or affairs.

SEC. 5. Said corporation may raise money by the issue of its bonds, secured by a mortgage on any or all of its property not acquired from said city or state.

SEC. 6. Said corporation may take, purchase and hold real and personal estate necessary for the purpose of its incorporation, the net annual income of which shall not exceed fifty thousand dollars, and shall possess the general powers and be subject to the restrictions and liabilities prescribed in the third title of the eighteenth chapter of the first part of the revised statutes.

SEC. 7. The commissioners of the sinking fund of the said city are authorized in their discretion to allot, set apart and appropriate for the use of said corporation, any of the lands belonging to said city north of One Hundred and Fifty-fifth street, but not in the Central Park, and such appropriation may be revoked if, after the expiration of five years from the passage of the act, a zoological garden is not established thereon ; said grounds thus set apart and appropriated shall be used for no purpose whatsoever except those aforesaid. As soon as any lands are set apart the Mayor of the said city of New York, and the President of the Department of Parks of said city, shall become and be ex-officio members of the board of managers of said corporation. If at any time the animals now composing the menagerie at Central Park shall be removed therefrom by the authorities having charge thereof, said authorities may make an arrangement with the incorporators named in this act or the corporation formed by them for leasing or sale of such animals to such incorporators or corporation, and said incorporators or corporation shall have a preference over any other person or corporation in respect thereto upon the same terms which said authorities could make with any such other person or corporation, or upon such other terms as to such authorities may seem proper, but nothing herein provided shall be construed as giving the



commissioners of the Department of Public Parks authority to sell, lease, transfer, or in any otherwise dispose of said animals or other property connected with or belonging to said menagerie.

SEC. 8. Admission to the said garden shall be free to the public for at least four days, one of which shall be Sunday, in each week, subject to such rules and regulations as shall be prescribed by said corporation.

SEC. 9. This act shall take effect immediately.

STATE OF NEW YORK,  
OFFICE OF THE SECRETARY OF STATE, } ss:

{ L. S. }

I have compared the preceding with the original law on file in this office, and do hereby certify that the same is a correct transcript therefrom, and of the whole of said original law.

Given under my hand and the seal of office of the Secretary of State, at the city of Albany, this third day of May, in the year one thousand eight hundred and ninety-five.

ANDREW DAVIDSON,  
*Deputy Secretary of State.*

BY-LAWS  
OF THE  
**New York Zoological Society.**

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ARTICLE I.

MEETINGS OF THE SOCIETY.

SECTION 1. The office and place of business of the New York Zoological Society shall be in the City of New York, unless otherwise ordered.

SEC. 2. The Society shall hold its annual meeting for the election of Managers, and other business, on the second Tuesday of January, or such day thereafter during the month of January to which said annual meeting shall adjourn.

SEC. 3. Special meetings of the Society shall be called by the Secretary, upon the request of the President or the Chairman of the Executive Committee, or at the written request of ten members.

SEC. 4. Notices of all meetings shall be mailed to each member of the Society at least three days before such meeting.

SEC. 5. At meetings of the Society twenty members shall constitute a quorum.

SEC. 6. The order of business shall be as follows :

1. Roll call.
2. Reading of minutes not previously read.
3. Report of Executive Committee.
4. Report of Secretary.
5. Report of Treasurer.
6. Report of Director.
7. Election of Managers.
8. Communications.
9. Miscellaneous business.
10. Reports and resolutions.

ARTICLE II.

BOARD OF MANAGERS.

SEC. 1. The Board of Managers shall consist of thirty-six members, together with the Mayor of New York and President of the Park Board, or Commissioner for the Bronx, who shall be members *ex-officio* of the board.

SEC. 2. Nineteen managers shall constitute a quorum, but ten managers may transact current business, and adjourn, subject to the subsequent approval of a meeting at which a quorum shall be present.

SEC. 3. The Board of Managers shall hold an annual meeting on the third Tuesday of January, or on such day thereafter to which said annual meeting shall adjourn. Regular meetings of the Board may also be called by the Secretary on the third Tuesdays of October and April, upon the request of the President or Chairman of the Executive Committee. Special meetings of the Board shall be called at any time by the Secretary, upon the request of the President or the Chairman of the Executive Committee, or at the written request of five Managers.

SEC. 4. Notices of meetings of the Board shall be mailed to each Manager at least three days before such meetings.

SEC. 5. The successors to the outgoing class of Managers shall be elected by the Society at its annual meeting, but vacancies in the Board may be filled for the unexpired term by the Board of Managers, or by the Executive Committee.

SEC. 6. A Nominating Committee shall be annually appointed by the Executive Committee, and shall consist of three members of the Society at large, who shall nominate and post ten days before the annual election the names of twelve persons to succeed the outgoing class of Managers in a conspicuous place in the office of the Society.

SEC. 7. No person shall be eligible for election to the Board of Managers, except to fill vacancies, unless his name shall have been posted as a candidate by such Committee, or by not less than ten members, in writing, in a conspicuous place in the office of the Society ten days before the annual election.

SEC. 8. Any Manager who shall fail to attend three consecutive meetings of the Board, unless excused by vote of the Board, shall cease to be a Manager.

SEC. 9. The Board of Managers shall at its annual meeting elect a President, two Vice-Presidents, a Secretary and a Treasurer, who shall hold office for one year, or until their successors are elected. The President, Vice-Presidents and Treasurer shall be members of the Board.

SEC. 10. The Director of the Zoological Park, and all other persons employed by the Society, shall be appointed by the Board or by the Executive Committee, and shall hold office during the pleasure of the Board.

SEC. 11. The Board shall, at its annual meeting, elect an Executive Committee and Auditing Committee, which shall hold office for one year, or until their successors are elected. The Board of Managers and the Executive Committee shall also have authority to appoint such other Committees or Officers as they may at any time deem desirable, and to delegate to them such powers as may be necessary.

SEC. 12. The order of business of the meetings of the Board shall be as follows :

1. Roll call.
2. Reading of minutes not previously read.
3. Report of Executive Committee.
4. Report of Secretary.
5. Report of Treasurer.

6. Report of Auditing Committee.
7. Report of Director.
8. Election of Officers.
9. Election of Committees.
10. Election of new members.
11. Communications.
12. Miscellaneous business.

SEC. 13. All reports and resolutions shall be in writing, and the ayes and nays may be called on any resolution at the request of one Manager.

SEC. 14. Whenever the funds of the Society shall permit, the Board of Managers or the Executive Committee may award medals or other prizes for meritorious work connected with the objects of the Society.

### ARTICLE III.

#### OFFICERS.

SEC. 1. The officers of the Society shall consist of a President, two Vice-Presidents, a Treasurer, a Secretary and a Director of the Zoological Park. These officers, with the exception of the Director, shall be elected at the annual meeting of the Board of Managers, but any vacancy may be filled for an unexpired term by the Board of Managers, or by the Executive Committee, until the next annual election.

SEC. 2. The President shall preside at all meetings of the Board and of the Society, and shall be *ex-officio* a member of the Executive and Auditing Committees.

SEC. 3. The Vice-Presidents shall, in the absence of the President, perform his duties and possess his powers, acting in the order of their election.

SEC. 4. The Treasurer shall receive, collect and hold, subject to the order of the Board of Managers, or the Executive Committee, all dues, subscriptions, fees and securities. He shall pay all bills as ordered by the Board of Managers or the Executive Committee, and shall report to the Society at its annual meeting, and to the Board of Managers at all regular meetings and to the Executive Committee at each meeting. He shall keep all moneys and securities in some bank or trust company to be approved by the Board of Managers or Executive Committee. The books of the Society shall at all times be open to the inspection of the Managers.

SEC. 5. The Secretary shall be a salaried officer of the Society. He shall be present, unless otherwise relieved by the Board or Executive Committee, at all meetings of the Society, of the Board and of the Standing Committees. He shall keep a careful record of all proceedings, shall have the custody of the seal, archives and books, other than books of account, and shall conduct the correspondence of the Society. He shall issue all notices and tickets and shall perform such other duties as the Board may direct. He shall be a member *ex-officio* of the Executive and Auditing Committees and of the Scientific Council.

SEC. 6. The Director of the Zoological Park shall be elected annually by the Executive Committee at a salary to be determined by said Commit-

tee, and paid monthly from funds of the Society.\* He shall be the responsible administrative officer of the Park, and shall recommend to the Executive Committee candidates for the various positions in the Park. He shall also perform all such other duties in connection with the business, scientific and literary administration of the Society as may be assigned to him by the Executive Committee.

#### ARTICLE IV.

##### COMMITTEES.

SEC. 1. There shall be two standing committees, the Executive Committee and the Auditing Committee, which shall hold office for one year or until their successors are elected.

SEC. 2. The Executive Committee shall consist of seven Managers, together with the President and Secretary of the Society *ex-officio*. Four members shall constitute a quorum, and all meetings shall be called by the Chairman. The Executive Committee shall fill all vacancies in its own number and shall have the full powers of the Board of Managers, except so far as such delegation of power may be contrary to law.

SEC. 3. The Executive Committee shall have the control and regulation of the collections, library and all other property of the Society, and shall have power to purchase, sell and exchange specimens and books, to employ and control all officials and employees of the Society and Park, and generally to carry out in detail the directions of the Board of Managers and the terms of any contract between the City, or Park Board, and the Society.

SEC. 4. All the rules and regulations for the examination of applicants for the various positions in the Park shall be made or approved by the Executive Committee.

SEC. 5. The Executive Committee may regulate the auditing and payment for all current accounts.

SEC. 6. The Executive Committee shall annually appoint a Nominating Committee, whose duties and powers are set forth in Sections 6 and 7, Article II. of these By-Laws.

SEC. 7. It shall also appoint a Scientific Council whose powers and duties are set forth in Section 2 of Article V. of the By-Laws.

SEC. 8. The Committee shall make a written report at each regular meeting of the Board of Managers.

SEC. 9. The Auditing Committee shall consist of three regular members of the Society, in addition to the President and Secretary, members *ex-officio*, and vacancies shall be filled by the Executive Committee. It shall be the duty of the Auditing Committee to audit, annually, the accounts of the Treasurer and of the Director, and any other accounts of the Society, and shall report to the Board of Managers at its annual meeting.

\*Until such time as he enters fully upon his public administrative duties.

## ARTICLE V.

## SCIENTIFIC COUNCIL.

SEC. 1. The Executive Committee shall annually appoint a Scientific Council of not more than ten members, and shall fill all vacancies. Members of the Council shall hold office until their successors are appointed.

SEC. 2. The duties of the Council shall be to act as an advisory board in all matters pertaining to the scientific administration of the Society, and especially as to the scientific features of the Park, the promotion of zoology by publications and otherwise, and the preservation of the native fauna of America.

SEC. 3. Four members, including the Chairman, shall constitute a quorum. The Chairman shall be elected annually by the Council. The Secretary of the Society shall be a member and Secretary *ex-officio* of the Council.

## ARTICLE VI.

## MEMBERS.

SEC. 1. The present members and such others as shall become associated with them, under the conditions prescribed by the By-Laws, shall be members of this Society as long as they shall comply with the By-Laws.

SEC. 2. Members failing to comply with these By-Laws, or for other good and sufficient cause, may be expelled from the Society by the Executive committee.

SEC. 3. Candidates for membership shall be proposed and seconded by members of the Society. The name, occupation and place of residence of every member so proposed shall be submitted for election to the Board of Managers or the Executive Committee, and such person, when elected, shall become a member upon payment of the annual dues, or of the fees as prescribed below.

SEC. 4. The annual dues shall be ten dollars, payable in advance, on the first day of May of each year, but the Executive Committee may remit the dues for the current year in the case of members elected between January 1st and May 1st of each year. The classes of membership shall be as follows :

SEC. 5. The payment of \$200 at one time shall constitute any member a Life Member.

SEC. 6. The payment of \$1,000 at one time, or in the case of a Life Member, of \$800, shall constitute any member a Patron.

SEC. 7. The payment of \$2,500 at one time, or in the case of a Patron of \$1,500, or of a Life Member of \$2,300, shall constitute any member an Associate Founder.

SEC. 8. Any member who shall donate to the Society \$5,000, or property of equal value, or any Associate Founder who shall donate \$2,500, or any Patron who shall donate \$4,000, may be elected by the Board of Managers or Executive Committee a Founder.

SEC. 9. Any member who shall donate to the Society \$25,000, or any Founder who shall donate \$20,000, may be elected by the Board of Managers or Executive Committee a Benefactor.

SEC. 10. Persons who have rendered marked service in the science of zoology or natural history may be elected Honorary Members, but not more than three such Honorary Members shall be elected in any one calendar year.

SEC. 11. Residents who have rendered scientific services to the Society, or marked services in zoology or natural history, may be elected as Permanent Fellows.

SEC. 12. Non-residents who communicate valuable information to the Society, or who have rendered marked service in the science of zoology or natural history may be elected Corresponding Members.

SEC. 13. Benefactors, Founders, Associate Founders, Patrons, Life Members, Honorary Members, Permanent Fellows and Corresponding Members shall be exempt from annual dues.

## ARTICLE VII.

### PRIVILEGES OF MEMBERS.

SEC. 1. A member's ticket admits the member and his immediate family to the Park on reserve days, and to all lectures and special exhibitions, and may be used by the member's immediate family, and shall be good for the current year.

SEC. 2. Admission tickets, each admitting two persons on reserve days, are issued to members for distribution, and are good for the current year.

SEC. 3. Each member of the Society is entitled annually to a member's ticket and to ten admission tickets.

SEC. 4. Each member shall also receive one copy of the catalogue or handbook, the report and official publications of the Society, and shall have all the privileges of the Library and Members' Building.

SEC. 5. No member shall be entitled to the privileges enumerated in this Article unless his annual dues shall have been paid.

SEC. 6. The Life Members shall have all the privileges of Members and ten additional admission tickets.

SEC. 7. Benefactors, Founders, Associate Founders and Patrons shall have all the privileges of Life Members, and shall in addition receive copies of all scientific works published by the Society.

SEC. 8. Any member who shall fail to pay his annual dues within three months after the same shall have become due, and after notice of thirty days, by mail, shall cease to be a member of the Society; subject, however, to reinstatement by the Board of Managers or Executive Committee for good cause shown.

SEC. 9. Any person elected to membership who shall fail to qualify within three months after notice of his election shall be considered to have declined his election; but such term may be extended by the Board of Managers or Executive Committee.

ARTICLE VIII.

FINANCES.

SEC. 1. The fiscal year of the corporation shall be the calendar year commencing January 1st and ending December 31st.

SEC. 2. Neither the Society nor any of its Managers or Officers shall contract any debt which, with existing debts, shall exceed in amount the funds then in the Treasury.

ARTICLE IX.

AMENDMENTS.

SEC. 1. Amendments to these By-Laws may be proposed, in writing, at any meeting of the Board of Managers, and adopted by unanimous consent of the Managers present, or if such proposed amendment shall fail to receive unanimous consent, the Secretary shall, with the notices of the next meeting, send a copy of it to each Manager and state that it will be brought up for action at such meeting, when it may be passed by a majority vote.



GRANT OF SOUTH BRONX PARK  
TO THE  
**New York Zoological Society.**

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At a special meeting of the Commissioners of the Sinking Fund, City of New York, held on March 24, 1897, a resolution was passed allotting South Bronx Park for the use of the New York Zoological Society upon conditions entirely satisfactory to the Society.

The full text of the resolution is as follows :

WHEREAS, by chapter 435 of the Laws of 1895, entitled "An act to incorporate the New York Zoological Society and to provide for the establishment of a Zoological Garden in the City of New York," it is provided that the Commissioners of the Sinking fund of the City of New York are authorized in their discretion to allot, set apart and appropriate, for the use of said corporation, any of the lands belonging to said city north of 155th Street, but not in Central Park,

RESOLVED, that the said Commissioners of the Sinking Fund do hereby allot, set apart and appropriate for the use of said corporation, a tract of land in the southern portion of Bronx Park, embracing an area of about 261 acres, and consisting of so much of said park as lies south of Pelham Avenue, upon the following terms and conditions, to wit :

*First.* That said grounds thus set apart and appropriated, shall be used for no other purpose whatsoever except for the purposes of said Zoological Garden as the same are specified in the act aforesaid, and that said appropriation of said lands hereby made shall be revoked if, after the expiration of three years from the date of the commencement of the work by the Park Department for the necessary improvement of the grounds as referred to and described in the sixth paragraph of this Resolution, a Zoological Garden is not established upon said tract of land.

*Second.* That the original equipment of buildings and animals for said Zoological Garden shall be paid for from funds contributed by the New York Zoological Society, and that said Society shall, before it enters into occupation of the allotted land and within one year from the date of this Resolution, raise one hundred thousand dollars by subscription, and within three years from the date of the commencement of the work by the Park Department for the necessary improvement of the grounds as referred to and described in the sixth paragraph of this Resolution, the further sum of at least one hundred and fifty thousand dollars. If the said Society shall fail or neglect to raise said funds within the periods respectively fixed therefor,

it shall, on demand of the Commissioners of the Sinking Fund, surrender to the City of New York the land allotted to it as a site for said Garden, and all improvements made thereon. The said Society shall not mortgage its buildings or animals, or any of its property within said Garden, which is directly or indirectly maintained by the City of New York.

*Third.* The said Zoological Society shall have the power to establish an endowment fund from the donations and bequests, which fund shall be used solely, unless otherwise specified by the donors thereof, for the general uses and purposes of said Society. The funds of said Society, other than the sums contributed to said endowment fund, shall be expended upon buildings and other enclosures for animals, for the collections of animals, and for the general purposes of the Society. Among the funds thus to be expended shall be the subscriptions of members, life members and patrons, and all cash donations to said Society, other than those made for the purposes of the endowment fund, and all moneys derived from the sale of animals; and the net proceeds of the privileges that may be developed in said Garden, such as refreshments, boating, riding animals, the sale of photographs, etc., shall be used for, and expended in the increase of the collections; and payments from the funds of such Society, including the endowment fund, shall be made directly from the treasury of the Society.

*Fourth.* The library, pictures, maps, office furniture, and other movable property purchased and owned by the Society shall remain the property of the Society, and excepting living animals, may be removable at will, and every piece of such property shall bear a distinguishing mark. But no buildings, aviaries or cages may be sold or removed by said Society without the written consent of the Board of Parks. All property paid for from the maintenance fund, hereinafter referred to, shall belong to the City.

*Fifth.* So long as the said Society is entrusted with the control and management of the said Zoological Garden, and the city provides for the proper maintenance and care of the animals and collections therein, the said Society shall not remove any of its animals or collections for exhibition elsewhere without the consent of the Board of Parks, but if the City shall ever cease to provide for the proper maintenance and care of the said animals and collections, the said Zoological Society shall have the right, upon giving three months' notice in writing to the Board of Parks, to remove the said animals and collections owned by it. The said Society shall have the right to improve its collections by the exchange of animals, and also by the sale of animals not needed for exhibition; but all moneys derived from such sale or exchange of animals shall be used only for the purpose of increasing said collections.

*Sixth.* The City of New York shall annually provide the necessary funds for the maintenance and care of the Zoological Garden, its buildings, inclosures and other improvements made from time to time therein, and the animals and collections of said Society; but the appropriation for the first year is not to exceed Sixty thousand dollars (\$60,000). It shall be the duty of the City to provide from such sums or appropriations, as may be applicable thereto, the cost of the necessary improvement of the ground

prior to the erection of buildings and inclosures, including such roads, walks, fences, grading, water supply, drainage and heating as may be or become necessary for the proper development of said Zoological Garden, all of which work of preparation and construction shall be performed in conformity with the plans therefor to be agreed upon between the Park Department and the Zoological Society. The said City shall also furnish the necessary supply of water, and adequate police patrol and protection, and the salaries of all persons employed directly in the service and development of the Zoological Garden shall be paid from the maintenance fund, and from such other funds as may be available for and applicable to the purpose. Payments from the maintenance fund shall be made upon vouchers filed with the Comptroller and drawn in such form as he may direct; and said Society shall annually render to the Mayor of the City of New York, a report showing all expenditures during the year then past, made on account of the said Zoological Garden, all revenues and resources thereof, a statement of the number of the members of said Society, of the donations received and of the number of animals in the Garden, the chief items of improvement made during the year, and all other information that the said Mayor may require.

*Seventh.* The Park Department shall at all times have access to the grounds, buildings and other inclosures of the said Zoological Society for general police visitation and supervision, and for all other lawful purposes. Prior to the commencement of any work on said Garden the general plan therefor shall be submitted to and approved by the Park Board, and all subsequent plans for buildings, roadways and paths shall also be so submitted and approved. No living tree shall be cut down or removed, except by the express authority of said Park Department, but the said Zoological Society shall have the right to remove dead trees and such bushes as it may be necessary to remove in the preparation of inclosures for animals, or in making other improvements. The said Department of Parks shall plant such and so many shade trees, aquatic plants, shrubs and flowers as may be necessary to enhance and secure the seclusion, beauty and usefulness of the park, and shall do and perform all the work of gardening necessary to carry out the general plan of improvement and the subsequent plans as may be agreed upon between the said Zoological Society and the said Department of Parks.

*Eighth.* The said Zoological Garden and its collections shall be free to the public without the payment of any admission fee or gratuity whatsoever for not less than seven hours a day on at least five days of the week, one of which shall be Sunday, and also on all legal holidays and half holidays, subject to such reasonable regulations as may be made by said Society, but the said Society may close the area devoted to the collections of animals on not more than two days in each week, and on such days may charge an admission fee which shall be fixed by said Society, and all moneys derived from such admission fees shall be expended by said Society in the increase of the collections or in the improvement of said Garden or its buildings; but the portion of the grounds situate east of Boston Road, and all the Bronx River below the Boston Road bridge shall be open to the public

at all times as pleasure grounds, subject to such reasonable regulations as may be adopted by said Society with the approval of the Park Department, and the occupancy of that portion of the park by herds of animals or by collections, shall be subject to the consent of the Park Department.

*Ninth.* The said Zoological Society shall have the right and power to appoint, direct, control and remove all persons and officers employed by them in and about the Zoological Garden, and to fix the salaries of such persons and officers and to make promotions, but all regular employees shall be chosen, and their salaries fixed and promotions made, by reason of special fitness and ability.

*Tenth.* Subject to the conditions hereinbefore contained, the said Zoological Society shall exercise entire control and management over all the affairs of the said Zoological Garden.

# ACT PROVIDING FOR GROUND IMPROVEMENTS IN THE ZOOLOGICAL PARK.

## CHAPTER 510.

AN ACT to provide for the improvement of a portion of Bronx Park in the City of New York to be allotted and set apart to the New York Zoological Society.

Accepted by the City. Became a law May 18, 1897, with the approval of the Governor. Passed, three-fifths being present.

*The People of the State of New York, represented in Senate and Assembly, do enact as follows :*

SECTION 1. Whenever the commissioners of the sinking fund of the city of New York shall, pursuant to the provisions of section seven of an act entitled "An act to incorporate the New York Zoological Society, and to provide for the establishment of a zoological garden in the city of New York, being chapter four hundred and thirty-five of the laws of eighteen hundred and ninety-five," allot, set apart and appropriate for the uses of the said corporation, a portion of Bronx park, in the city of New York ; and in making such allotment shall by contract executed between the said commissioners of the sinking fund and the said zoological society, or otherwise, fix the terms and conditions upon which said land shall be so allotted, and thereafter had, used and occupied, pursuant to the provisions of the said act ; the department of public parks in the city of New York shall forthwith make such improvements upon the said portion of Bronx park so allotted, set apart and appropriated as shall be necessary to provide proper sites for the buildings and fenced enclosures for the animal collections of said society, and for the use of said land in carrying out the objects and purposes of the said society and for the accomodation of the public ; roads and approaches ; the excavation and construction of pools and ponds ; the grading of building sites and other parts of said land ; the construction of a system of drains and sewers ; the construction of water supply and heating plants ; the erection of the necessary fences and guard-rails or barriers ; the macadamizing or paving of enclosures for large animals, the construction of suitable entrances ; planting of trees, shrubs and plants, and at least two buildings for the public comfort, and in addition such other changes or improvements as may be deemed necessary for the use of said ground as a public zoological garden or park, by said society pursuant to the provisions of said act ; and the conditions or provisions on which the same has been allotted to or is held by said society.

SEC. 2. Such improvements, construction and erections shall be made pursuant to general plans to be made and prepared by said the New York Zoological society, when approved by said deparument of public parks ;

and no work shall be performed upon the said land pursuant to the provisions of this act until such plans have been presented to and approved by the said commissioners, nor until specifications shall have been made to carry out the same, in like manner approved by the said department of public parks; nor except in accordance with such plans and specifications as so approved; nor until the said zoological society shall have raised by subscription or otherwise the sum of one hundred thousand dollars for the prosecution of its work, and the same shall have been actually paid in to said society or secured to the satisfaction of said commissioners of public parks.

SEC. 3. For the purpose of providing means for carrying into effect the provisions of this act, it shall be the duty of the comptroller of the city of New York, upon being thereunto authorized by the board of estimate and apportionment of the city of New York, to issue and sell consolidated stock of the city of New York at such rate of interest as may be fixed by the comptroller of said city, not exceeding four per centum per annum, as said board of estimate and apportionment may from time to time prescribe. The said stock shall provide for the payment of the principal and interest thereof in gold coin of the United States of America, and shall be free from taxation and be redeemable within a period not exceeding forty years from the date of its issue. The same shall not be sold for less than the par value thereof, and the proceeds thereof shall be paid out and expended for the purposes hereinabove indicated, and for which the same are issued, upon vouchers certified by the department of public parks. The aggregate amount of said stock to be issued under the provisions of this act shall not exceed one hundred and twenty-five thousand dollars.

SEC. 4. All acts or parts of acts inconsistent with the provisions hereof are hereby repealed.

SEC. 5. This act shall take effect immediately.

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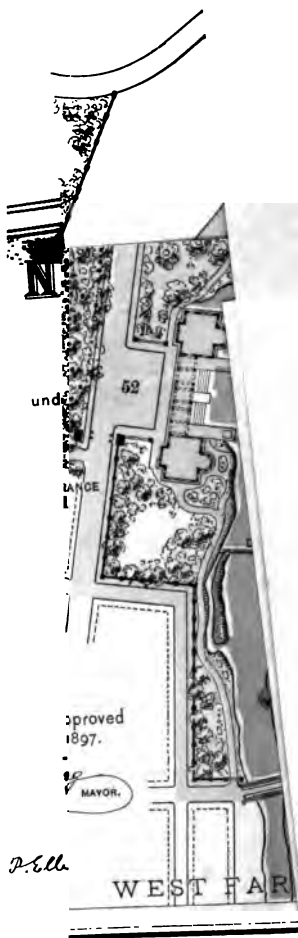
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THIRD ANNUAL REPORT  
OF THE  
NEW YORK  
ZOOLOGICAL SOCIETY  
CHARTERED IN 1895

OBJECTS OF THE SOCIETY  
A PUBLIC ZOOLOGICAL PARK  
THE PRESERVATION OF OUR NATIVE ANIMALS  
THE PROMOTION OF ZOOLOGY



NEW YORK  
OFFICE OF THE SOCIETY, 11 WALL STREET  
MAY 1, 1899





## ILLUSTRATIONS.

*From photographs by G. E. Stonebridge.*

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GILLIS, CHARLES J.....	128 East 24th Street
GILMAN, THEODORE.....	311 Palisade Avenue, Yonkers
GLEESON, JOSEPH M.....	45 East 59th Street
GODDARD, F. N.....	2 East 35th Street
GODDARD, MRS. J. WARREN.....	52 East 57th Street
GODKIN, EDWIN L.....	206 Broadway
GOODHUE, MRS. C. C.....	189 Madison Avenue
GOODWIN, REV. FRANCIS.....	Hartford, Conn.
GOODRICH, MRS. FREDERIC.....	250 Fifth Avenue
GOULD, CHARLES A.....	Rye, N. Y.
GOULD, C. W.....	5 Washington Square
GOULD, EDWIN.....	Irvington-on-Hudson, N. Y.
GOULD, MISS HELEN MILLER.....	Irvington-on-Hudson, N. Y.
GRACE, WILLIAM R.....	31 East 79th Street
GREENE, GEN. FRANCIS V.....	1 Broadway
GREENOUGH, JOHN.....	31 West 35th Street

GREENWOOD, ISAAC J.....	271 West End Avenue
GREER, CHARLES.....	Rye, N. Y.
GRINNELL, GEORGE BIRD.....	346 Broadway
GRINNELL, WILLIAM MORTON.....	42 East 66th Street
GRISWOLD, CHESTER.....	23 West 48th Street
GROSSMAN, GEORGE J.....	952 Trinity Avenue
GULLIVER, W. C.....	120 Broadway
GURNEE, W. S., JR.....	8 East 33rd Street
HADDEN, DR. ALEXANDER.....	155 East 51st Street
HAINES, EDWIN IRVINE....	Liberty Avenue & Poplar Place, New Rochelle
HALSTED, MISS L. P.....	110 East 37th Street
HARBECK, CHARLES T.....	Islip, N. Y.
HARRIMAN, W. M.....	60 West 58th Street
HART, WILLIAM W.....	47 East 12th Street
HARVEY, ALEXANDER.....	Calumet Club
HASWELL, CHARLES H.....	42 Broadway
*HAVEMEYER, C. E.....	
HAVENS, ALBERT G.....	East Orange, N. J.
HAYDEN, HORACE J.....	116 East 18th Street
HAYNES, WILLIAM DE FOREST.....	16 East 36th Street
HAZARD, MISS MARY P.....	Peace Dale, R. I.
HECKSCHER, JOHN GERARD.....	31 West 75th Street
HEINS, GEORGE L.....	7 Beekman Street
HENDRICKS, CLIFFORD B.....	512 Fifth Avenue
HILL, GEORGE H. B.....	Metropolitan Club
HILL, JAMES K.....	47 William Street
*HILYARD, GEORGE D.....	
HILYARD, GEORGE D., JR.....	144 East 49th Street
HINTON, DR. JOHN H.....	41 West 32nd Street
HOFFMAN, REV. E. A.....	1 Chelsea Square
HOFFMAN, JOHN W.....	Orangeburg, S. C.
HOLBROOK, MRS. F. S.....	Stamford, Conn.
HOLBROOK, MISS LILIAN.....	Stamford, Conn.
HOLT, HENRY.....	711 Madison Avenue
HOPKINS, MRS. DUNLAP.....	10 West 30th Street
HOPPIN, HAMILTON L.....	47 West 11th Street
HORNADAY, WILLIAM T.....	183rd Street & Southern Boulevard
HOSKIER, H. C.....	26 Exchange Place
HOYT, ALFRED M.....	1 Broadway
HOYT, JESSE.....	257 West 73rd Street
HUMBERT, ARTHUR C.....	6 West 53rd Street
HUNTINGTON, GEORGE.....	437 West 59th Street
HUSTED, H. B.....	276 Gates Avenue, Brooklyn
HUTCHINS, AUGUSTUS SCHELL.....	69 Wall Street
HYDE, B. T. BABBITT.....	20 West 53rd Street
HYDE, CLARENCE, M.....	206 Madison Avenue
ISELIN, ADRIAN, JR.....	9 East 26th Street

\* Deceased.

ISHAM, CHARLES H.....	123 East 37th Street
JACKSON, FREDERIC WENDELL.....	Westchester, N. Y. City
JACKSON, THEODORE F.....	10 West 37th Street
JACOB, LAWRENCE.....	36 West 59th Street
JACOBI, DR. A.....	110 West 34th Street
JACQUELIN, HERBERT T. B.....	34 East 38th Street
JACQUELIN, JOHN H.....	34 East 38th Street
JAMES, ARTHUR CURTISS.....	92 Park Avenue
JAMES, DR. WALTER B.....	31 West 54th Street
JARVIS, NATHANIEL, JR.....	62 East 55th Street
JENNINGS, OLIVER G.....	54 William Street
JENNINGS, WALTER.....	11 East 41st Street
JOLINE, ADRIAN HOFFMAN.....	1 West 72nd Street
JONES, MRS. JOSEPHINE K.....	Fifth Avenue Hotel
JONES, LEWIS Q.....	Bay View, Newport, R. I.
KANE, JOHN INNES.....	49 West 23rd Street
KANE, S. NICHOLSON.....	23 West 47th Street
KEECH, FRANK B.....	14 East 65th Street
KELLY, EUGENE.....	763 Fifth Avenue
KEMP, ARTHUR T.....	720 Fifth Avenue
KENNEDY, JOHN S.....	6 West 57th Street
KERSTING, RUDOLF.....	104 Fulton Street
KING, WILLIAM F.....	17 East 63rd Street
KIP, COL. LAWRENCE.....	452 Fifth Avenue
KLOPSCH, LOUIS.....	100 East 17th Street
KNAPP, DR. HERMAN.....	26 West 40th Street
KNAPP, JOHN M.....	66 Broadway
KNAUTH, PERCIVAL.....	302 West 76th Street
KNIGHT, CHARLES R.....	American Museum of Natural History
KNIGHT, HENRY E.....	109 Spring Street
KNOEDLER, ROLAND F.....	122 West 13th Street
KOCH, HENRY C. F.....	224 Lenox Avenue
KUHNE, PERCIVAL.....	22 West 56th Street
KUNHARDT, HENRY R.....	124 West 74th Street
KUTTROFF, ADOLF.....	17 East 69th Street
LAGAI, DR. GEORGE.....	17 Park Place
LAMBERT, DR. ALEXANDER.....	125 East 36th Street
LANDON, FRANCIS G.....	27 William Street
LAWRENCE, NEWBOLD T.....	51 Liberty Street
LAWRENCE, W. V.....	969 Fifth Avenue
LEAVY, DR. EDWARD N.....	166 East 61st Street
LEFFERTS, MARSHALL C.....	34 East 65th Street
LE GENDRE, WILLIAM C.....	59 Wall Street
LESHER, A. L.....	9 East 75th Street
LICKMAN, ALBERT E.....	2683 Third Avenue
LITCHFIELD, EDWARD H.....	59 Wall Street
LIVINGSTON, GOODHUE.....	287 Fourth Avenue
LIVINGSTON, ROBERT R.....	9 East 9th Street

LIVINGSTON, WILLIAM S.	670 Lexington Avenue
LOBENSTINE, WILLIAM CHRISTIAN	245 Central Park West
LOGAN, WALTER S.	206 W. 72nd Street
LUSK, PROF. GRAHAM	New Haven, Conn.
LUTTGEN, WALTHER	23 Nassau Street
LYDIG, DAVID	49 East 29th Street
LYDIG, PHILIP M.	Honolulu, S. I.
LYMAN, FRANK	39 Remsen Street, Brooklyn
MCALAN, JOHN	4 West 84th Street
MCALPIN, CHARLES W.	11 East 90th Street
MCALPIN, MRS. CHARLES W.	11 East 90th Street
MCALPIN, COL. E. A.	146 Avenue D
MCALPIN, GEORGE L.	9 East 90th Street
MCCALL, JOHN A.	54 West 72nd Street
MCCLURE, S. S.	141 East 25th Street
McGEE, JAMES	26 Broadway
McGOWAN, DR. JOHN P.	20 East 29th Street
McKIM, REV. HASLETT	33 West 20th Street
McLEAN, JAMES	16 West 55th Street
MAGEE, JOHN	Corning, N. Y.
MALI, CHARLES	93 Willow Street, Brooklyn
MALI, PIERRE	8 Fifth Avenue
MARLOR, HENRY S.	Care Hatch & Foote, 3 Nassau Street
MARSHALL, LOUIS	33 East 72nd Street
MARTIN, F. E.	28 Pine Street
MARX, GEORGE B.	340 East 118th Street
MAXWELL, ROBERT	64 Worth Street
MEAD, WALTER H.	222 West 23rd Street
MILLER, CHARLES R.	41 Park Row
MILLS, ABRAHAM G.	38 Park Row
MONTANT, ALPHONSE	326 West 22nd Street
MOORE, FRANCIS C.	1 West 72nd Street
MOORE, JOHN G.	11 East 65th Street
MORGAN, J. P., JR.	J. S. Morgan & Co., London, England
MORRIS, DAVE H.	Westchester, N. Y. City
MORRIS, FORDHAM	16 Exchange Place
MORRIS, DR. LEWIS R.	60 West 58th Street
MOTT, JORDAN L., JR.	17 East 47th Street
MUNN, HENRY NORCROSS	Orange, N. J.
MURGATROYD, JOHN	458 Pacific Street, Brooklyn
NASH, J. WARREN	Union Club
NICOLL, DE LANCEY	123 East 38th Street
NICHOLS, ACOSTA	27 Pine Street
NICHOLS, GEORGE L.	66 East 56th Street
NILES, J. BARRON	66 Broadway
NILES, ROBERT L.	66 Broadway
NILES, W. W.	11 Wall Street
NORTH, DR. JAMES H., JR.	23 East 64th Street

NOTMAN, JOHN.....	54 Wall Street
NUNAN, D.....	37 Park Row
OSBORN, MRS. HENRY F.....	850 Madison Avenue
OUTERBRIDGE, DR. PAUL.....	35 West 53rd Street
OWEN, MISS JULIETTE A.....	306 North 9th Street, St. Joseph, Mo.
OWEN, MRS. THOMAS JEFFERSON.....	23 W. 34th Street
PALMEDO, U.....	28 Exchange Place
PALMER, S. S.....	52 Wall Street
PANCOAST, RICHARD.....	28 Platt Street
PARSONS, MRS. EDWIN.....	90th Street & Riverside
PATTERSON, J. M.....	Highbridge Road, Fordham
PEABODY, A. J.....	15th West 10th Street
PECK, THEODORE G.....	Haverstraw, N. Y.
PELL, ALFRED.....	Highland Falls, N. Y.
PELTON, FRANKLIN D.....	Calumet Club
PENFOLD, WILLIAM HALL.....	10 East 40th Street
PENNIMAN, GEORGE H.....	536 Fifth Avenue
PETERS, CHARLES G.....	13 East 76th Street
PETERS, W. R.....	23 W. 73rd Street
PHIFER, ROBERT F.....	46 West 17th Street
PIEL, GOTTFRIED.....	333 West 76th Street
PIERREPONT, JOHN JAY.....	Pierrepont Place, Brooklyn
PIERSON, J. FREDERICK.....	20 West 52nd Street
PINCHOT, GIFFORD.....	Department of Agriculture, Washington, D. C.
PLYMPTON, GILBERT M.....	30 West 52nd Street
POND, A. EDWARD.....	124 Fifth Avenue
PORTER, H. H.....	120 Broadway
POST, ABRAM S.....	29 Liberty Street
POST, EDWARD C.....	250 West End Avenue
POST, GEORGE B., JR.....	Mills Building
POSTLEY, CLARENCE A.....	817 Fifth Avenue
PRATT, DALLAS B.....	24 West 48th Street
PRYER, CHARLES.....	New Rochelle, N. Y.
PYLE, JAMES TOLMAN.....	673 Fifth Avenue
PYNE, M. TAYLOR.....	52 Wall Street
RAND, GEORGE C.....	Lawrence, L. I.
RANDOLPH, L. V. F.....	39 William Street
RANDOLPH, WILLIAM W.....	31 Nassau Street
RAUCH, WILLIAM.....	Union Club
REDMOND, HENRY S.....	114 East 19th Street
REEBER, GEORGE A.....	118 East 111th Street
REYNOLDS, JAMES BRONSON.....	184 Eldridge Street
RHOADES, JOHN HARSEN.....	559 Madison Avenue
RICHARD, AUGUSTE.....	12 East 69th Street
RICHARDS, CHARLES F.....	326 W. 20th Street
RIKER, SAMUEL.....	27 East 69th Street
ROBBINS, CHANDLER.....	64 West 47th Street
ROBBINS, S. HOWLAND.....	20 East 27th Street

ROBISON, WILLIAM.....	18 Wall Street
ROBINSON, NELSON.....	23 East 55th Street
ROCKEFELLER, WILLIAM.....	26 Broadway
ROGERS, E. L.....	576 Madison Avenue
ROGERS, HENRY PENDLETON.....	35 West 49th Street
ROLLE, AUGUST J.....	College Point, L. I.
ROOT, ELIHU.....	32 Liberty Street
ROSENWALD, ISAAC.....	141 Water Street
ROWLEY, JOHN, JR.....	American Museum of Natural History
RUNDE, A. THEODORE.....	3rd Avenue & 184th Street
RUNGIUS, CARL.....	107 Kent Street, Brooklyn
RUPPERT, JACOB.....	1116 Fifth Avenue
RUSSELL, ROBERT HOWARD.....	3 West 29th Street
SACKETT, CLARENCE.....	196 Madison Avenue
SACKETT, S. E.....	196 Madison Avenue
SAGE, DEAN.....	Albany, N. Y.
SAINT GAUDENS, AUGUSTUS.....	3 rue de Bagnaux, Paris
SAUTER, FREDERICK.....	3 North William Street
SCHARMANN, H. B.....	170 West 59th Street
SCHEFER, CARL.....	40 West 37th Street
SCHIEFFELIN, WILLIAM J.....	170 William Street
SCHIRMER, RUDOLPH E.....	241 East 17th Street
SCHLATTER, CHAS. F.....	129 West 120th Street
SCHRANK, GEORGE.....	183rd Street & Jackson Avenue
SCHULTZE, JOHN S.....	59 Wall Street
SCHUMACHER, C.....	31 East 81st Street
SCHUYLER, MISS LOUISA LEE.....	135 East 21st Street
SELIGMAN, ALFRED L.....	Mills Building
SEWELL, CORNELIUS V. V.....	68 West 45th Street
SEYMOUR, JULIUS H.....	35 Wall Street
SEYMOUR, WILLIAM W.....	35 Wall Street
SHAW, WALTER W.....	Care of Metropolitan Trust Co., 39 Wall Street
SHELDON, GEORGE R.....	89 Park Avenue
SHERMAN, GARDINER.....	235 West 72nd Street
SHIELDS, GEORGE O.....	19 West 24th Street
SHURTLEFF, R. M.....	44 West 22nd Street
SIMPSON, JOHN BOULTON, JR.....	97 Fifth Avenue
SKIDMORE, SAMUEL TREDWELL.....	71 West 50th Street
SKIDMORE, WILLIAM L.....	49 West 52nd Street
SMILLIE, CHARLES F.....	29 East 38th Street
SMITH, DR. EDWARD A.....	105 East 18th Street
SMITH, FRANK SULLIVAN.....	54 Wall Street
SMITH, GEORGE WARREN.....	Metropolitan Club
SMITH, PHILIP S.....	46 Johnson Park, Buffalo, N. Y.
SMITH, WILLIAM ALEXANDER.....	412 Madison Avenue
SMITHERS, CHARLES.....	507 Madison Avenue
SMYTH, PHILIP A.....	57 East 127th Street
SOPER, A. W.....	150 West 59th Street

SPENCER, SAMUEL.....	80 Broadway
SQUIBB, DR. E. H.....	36 Doughty Street, Brooklyn
STANDISH, MRS. MYLES.....	27 Fifth Avenue
STARIN, JOHN H.....	Pier 13, North River
STEBBINS, JAMES H.....	80 Madison Avenue
STECHERT, GUSTAV E.....	1369 Dean Street, Brooklyn
STERN, ISAAC.....	858 Fifth Avenue
STEWART, WILLIAM R.....	31 Nassau Street
STIMPSON, DR. DANIEL M.....	11 West 17th Street
STOKES, H. B.....	New Rochelle, N. Y.
STOKES, J. G. PHELPS.....	229 Madison Avenue
STONE, MASON A.....	20 East 66th Street
STONEBRIDGE, CHARLES H.....	2656 Third Avenue
STONEBRIDGE, WM.....	951 E. 184th Street
STORCK, GEORGE H.....	30 West 9th Street
STOW, GEORGE C.....	49 E. 25th Street
STRATFORD, PROF. WILLIAM.....	263 West 52nd Street
STUART, INGLIS.....	69 Wall Street
STURGES, FREDERICK.....	36 Park Avenue
STURGES, HENRY C.....	56 East 34th Street
STUYVESANT, RUTHERFURD.....	18 Exchange Place
SULLIVAN, MRS. JAMES.....	36 Park Avenue
SWAYNE, FRANCIS B.....	326 West 90th Street
TAYLOR, MISS ALEXANDRINA.....	Plaza Hotel
TAYLOR, DWIGHT W.....	500 Madison Avenue
TAYLOR, GEORGE.....	8 West 126th Street
TEFFT, F. GRISWOLD.....	1 West 72nd Street
TEFFT, WILLIAM E.....	22 East 64th Street
TERRY, REV. RODERICK.....	169 Madison Avenue
TESLA, NIKOLA.....	46 East Houston Street
THACHER, MRS. GEORGE W.....	Park Avenue Hotel
THAYER, HARRY BATES.....	57 Bethune Street
THOMAS, SAMUEL.....	17 West 57th Street
THOMSON, DAVID.....	14 East 73rd Street
THOMSON, GIRAUD F.....	141 Broadway
THOMPSON, ROBERT MEANS.....	5 East 53rd Street
THOMPSON, PROF. W. GILMAN.....	34 East 31st Street
THORNE, EDWIN.....	Babylon, L. I.
THORNE, W. V. S.....	Metropolitan Club
TIFFANY, LOUIS C.....	7 East 72nd Street
TILFORD, HENRY M.....	3 West 46th Street
TILT, ALBERT.....	5 East 67th Street
TOD, J. KENNEDY.....	45 Wall Street
TOEL, WILLIAM.....	20 East 57th Street
TOOTHE, WILLIAM.....	Madison, N. J.
TOWNSEND, HOWARD.....	29 West 39th Street
TOWNSHEND, JOHN.....	302 West 73rd Street
TOWS, COE DOWNING.....	Buckingham Hotel



TRASK, SPENCER.....	27 Pine Street
TROWBRIDGE, EDWIN D.....	123 East 39th Street
TROWBRIDGE, FREDERICK K.....	115 E. 37th Street
TURNBULL, ROBERT J.....	6 W. 47th Street
TURNURE, GEO. E.....	115 E. 36th Street
TURNURE, LAWRENCE.....	417 Fifth Avenue
TYTUS, ROBERT DE PEYSTER.....	10 East 77th Street
UPP, THOMAS M.....	57 West 137th Street
VALENTINE, DR. WILLIAM A.....	45 West 35th Street
VAN BRUNT, C. H.....	10 East 46th Street
VAN CORTLANDT, AUGUSTUS.....	Tuxedo Park, N. Y.
VAN EMBURGH, D. B.....	30 East 38th Street
VANDERPOEL, MRS. JOHN A.....	224 Madison Avenue
VAN NEST, G. WILLETT.....	345 Fifth Avenue
VAN PELT, GILBERT S.....	123 East 69th Street
VAN WINKLE, EDGAR B.....	115 East 70th Street
VIELE, HERMAN K.....	12 West 18th Street
VIVANTI, FERRUCCIO ANSELMO.....	995 Madison Avenue
VORCE, A. D.....	353 Fifth Avenue
WADSWORTH, CLARENCE S.....	Middletown, Conn.
WADSWORTH, W. P.....	25 East 30th Street
WAGSTAFF, C. DU BOIS.....	Babylon, L. I.
WAHLE, CHAS. G. F.....	1048 Boston Road
WANNINGER, CHARLES.....	1143 Park Avenue
WARD, CHAS. H.....	159 West 73rd Street
WARDWELL, WILLIAM T.....	21 West 58th Street
*WARING, COL. GEORGE E.	
WATERBURY, JOHN I.....	20 Wall Street
WATSON, CHARLES F.....	South Orange, N. J.
WEBB, G. CREIGHTON.....	47 E. 44th Street
WEBB, DR. W. SEWARD.....	Shelbourne, Vt.
WEBER, LOUIS.....	9 East 93rd Street
WELLS, OLIVER J.....	Waldorf Hotel
WHITE, JOHN JAY.....	103 East 57th Street
WHITE, LEONARD D.....	39 East 74th Street
WHITE, STANFORD.....	160 Fifth Avenue
WHITNEY, CASPAR.....	254 Madison Avenue
WHITNEY, HARRY PAYNE.....	2 West 57th Street
WIGGIN, FREDERICK HOLME.....	55 West 36th Street
WILLARD, E. A.....	132 Front Street
WILLIAMS, G. G.....	34 West 58th Street
WILLIS, CHARLES T.....	309 West 82nd Street
WILMERDING, GUSTAV L.....	135 Madison Avenue
WINTHROP, EGERTON L.....	23 East 33rd Street
WINTHROP, R. DUDLEY.....	Knickerbocker Club
WITHERBEE, FRANK S.....	40 Wall Street
WOLFF, EMIL.....	115 West 70th Street
WOOD, ARNOLD.....	40 East 35th Street

\* Deceased

WOOD, GILBERT CONGDON.....	126 East 37th Street
WOOD, J. WALTER.....	South Orange, N. J.
WOOD, J. WALTER, JR.....	Short Hills, N. J.
WOOD, WILLIAM C.....	45 East 10th Street
WOOD, WILLIAM H. S.....	45 East 10th Street
WOODWARD, F. F.....	Hotel San Remo
WOOSTER, NOYES C.....	38 West 35th Street
WORTHINGTON, CHARLES C.....	214 Broadway
WORTMAN, DR. J. L.....	American Museum of Natural History
WRIGHT, J. DUNBAR.....	346 Lexington Avenue
WRIGHT, J. HOWARD.....	346 Lexington Avenue
WRIGHT, MRS. MABEL OSGOOD.....	118 West 11th Street
YOUNG, EPHRAIM M.....	202 Broadway
YOUNG, FREDERICK STAFFORD.....	11 West 19th Street
YOUNG, RICHARD N.....	18 West 21st Street
ZABRISKIE, ANDREW C.....	716 Fifth Avenue

### Corresponding Member.

STONE, A. J.....	Missoula, Montana
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### Summary of Membership.

TO MAY 1, 1899.

Total number of Founders.....	17
“ “ Associate Founders .....	6
“ “ Patrons .....	27
“ “ Life Members .....	79
“ “ Annual Members .....	554
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	683
Members Deceased, 1898-99.....	6

CONDITIONS OF MEMBERSHIP:—Any two members of the Society may recommend candidates for membership, and all members are requested to add to the working strength of the organization by enlisting the interest of their relatives and friends. There is no initiation fee. The annual dues for Annual Members are \$10.00. The Life Member's fee is \$200; Patron's fee, \$1,000; Associate Founder's fee, \$2,500; Founder's, \$5,000; Benefactor's, \$25,000.

Application blanks will be supplied by the Secretary upon request.





THE REPTILE HOUSE, ON APRIL 14.



## PROGRESS OF THE YEAR.

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### REPORT OF THE EXECUTIVE COMMITTEE TO THE BOARD OF MANAGERS.

Again the Executive Committee has the pleasure of reporting to the Society a year of unbroken progress. The year's work has been devoted almost wholly to the development of the Zoological Park, and because of the imperative demands in that direction, all plans for other scientific work, save in the cause of bird protection, have been held in abeyance. The Society has steadily fulfilled its obligations to the City in the matter of raising funds and expending them, it has assumed control of the grounds allotted for use as a Zoological Park, and vigorously undertaken the erection thereon of the various installations for animals that were proposed last year. The Board of Estimate of the City of New York has appropriated and made available the fund of \$125,000 promised for the preparation of the Zoological Park site, and the Department of Parks for the Borough of the Bronx is actively engaged in carrying out the Society's scheme of ground improvements. Altogether about 150 men are employed in the Park in the many kinds of work now in progress. Efforts are being made to secure a satisfactory staff of experienced keepers, and animals are being engaged for delivery subsequent to July 1, when the Society hopes it will be possible to open the Park to the public.

#### THE BUILDING FUND.

Thanks to the generosity of the subscribers to the Building Fund, the Society completed its first obligation toward the City—to raise \$100,000 within one year from March 24, 1897—on February 17, 1898.

The following is a complete list of special subscriptions to the

fund for the erection of buildings, and the purchase of animals with which to fill them:

OSWALD OTTENDORFER .....	\$5,000 00
PERCY R. PYNE .....	5,000 00
WILLIAM K. VANDERBILT .....	5,000 00
LEVI P. MORTON .....	5,000 00
WILLIAM E. DODGE .....	5,000 00
ROBERT GOELET .....	5,000 00
J. PIERPONT MORGAN .....	5,000 00
JACOB H. SCHIFF .....	5,000 00
WILLIAM D. SLOANE .....	5,000 00
WILLIAM C. WHITNEY .....	5,000 00
C. P. HUNTINGTON .....	5,000 00
HENRY A. C. TAYLOR .....	5,000 00
GEORGE J. GOULD .....	5,000 00
SAMUEL THORNE .....	5,000 00
CORNELIUS VANDERBILT .....	5,000 00
MRS. ANTOINETTE ENO WOOD .....	5,000 00
ANDREW CARNEGIE .....	5,000 00
JOHN L. CADWALADER .....	2,700 00
JOHN S. BARNES .....	2,500 00
PHILIP SCHUYLER .....	2,500 00
F. AUGUSTUS SCHERMERHORN .....	2,500 00
TIFFANY & Co. ....	2,500 00
MORRIS K. JESUP .....	2,500 00
HENRY F. OSBORN .....	1,000 00
A. NEWBOLD MORRIS .....	1,000 00
EVA VAN CORTLANDT MORRIS .....	1,000 00
NEWBOLD MORRIS .....	1,000 00
EDWARD J. BERWIND .....	1,000 00
WILLIAM H. WEBB .....	1,000 00
CHARLES T. BARNEY .....	1,000 00
MRS. WILLIAM H. OSBORN .....	1,000 00
HENRY W. POOR .....	1,000 00
GEORGE CROCKER .....	1,000 00
CHARLES W. HARKNESS .....	1,000 00
GEORGE T. BLISS .....	1,000 00
WM. C. SCHERMERHORN .....	1,000 00
J. HOWARD FORD .....	1,000 00

WM. C. OSBORN.....	\$1,000 00
ABRAM S. HEWITT .....	1,000 00
MRS. JOHN B. TREVOR .....	1,000 00
H. MCK. TWOMBLY .....	1,000 00
JAMES C. CARTER .....	1,000 00
HENRY O. HAVEMEYER .....	1,000 00
HENRY H. COOK .....	1,000 00
GEORGE F. BAKER .....	1,000 00
JAMES B. FORD .....	1,000 00
ROSWELL P. FLOWER .....	1,000 00
MISS CAROLINE PHELPS STOKES .....	1,000 00
JOSEPH STICKNEY .....	1,000 00
LISPENARD STEWART .....	1,000 00
WALTER H. BURNS .....	500 00
EUGENE G. BLACKFORD .....	500 00
JAMES H. HIGGINSON .....	500 00
SAMUEL D. BABCOCK .....	500 00
WOODBURY G. LANGDON .....	250 00
CASH .....	100 00
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	\$130,550 00

On February 17, 1898, a certificate of deposit for \$100,000 was placed in the hands of the Board of Parks, with a request that an application be made to the Board of Estimate and Apportionment for the fund necessary to the proper preparation of the grounds. Pending the result of this correspondence, and in full reliance upon the good-will of the city government toward the Zoological Park, the Executive Committee ordered construction work to proceed on buildings and dens for animals, which would cost \$30,000. The necessary plans for these improvements having been laid before the Board of Parks, and approved by that body, bids were called for, and in due time contracts for the work were executed.

#### WORK OF THE ZOOLOGICAL SOCIETY.

On May 4th the Executive Committee of the Zoological Society authorized the expenditure of \$30,000 on the construction of the Elk House, Bear, Wolf, and Fox Dens, Winter Bird House and Flying-Cage. On July 1 working drawings and specifications for



all the above were submitted to the Board of Parks, and approved by that body one week later. On July 14th the Executive Committee ordered, in addition to the above, the construction of other installations for animals, one of which was the Reptile House, to cost a total of \$62,500.

On August 15th ground was broken for the Winter House for Birds, and a contract was made with William Wilson for the Elk House. On August 17th work began on the construction of the Elk House, and on August 18th the plans of the Reptile House were approved by the Park Board. On August 22d ground was broken for the Reptile House. On August 29th the Park Department began the work of excavating the south pond. On September 7th work began at the Bear Dens, and on September 13th work began on the stone wall to enclose the Prairie Dogs' Knoll. A trench was dug to bed rock, the depth of earth varying from two to eight feet. The enclosure is circular in form, and its diameter is eighty feet. On September 21st the excavation for the Buffalo House was begun. On September 26th a force of men began to excavate for the water-courses at the Ducks' Aviary, and construct three islands. On October 10th the same force began to excavate the Beaver Pond.

#### ZOOLOGICAL SOCIETY WORK COMPLETED TO MARCH 15, 1899.

The Elk House has been completed in all respects, except the bark-covered slabs, and fitted for temporary use as offices and workshops.

The Bird House is ready to receive its cage work and boilers.

The walls of the Reptile House have been completed, and the roof will be added forthwith.

The steel cage work for the first series of Bear Dens will arrive about April 15th, and, with the exception of the sleeping dens, the Bear Dens will be completed about May 15th.

The excavation of ponds for the Ducks' Aviary and the construction of three islands have been completed. On the south island twelve enclosures have been laid out, two shelter houses have been erected, and about one hundred native shrubs have been planted. The iron fencing has been completed, and will be erected at once.

A stone wall, going down to bed rock, has been constructed

around the Prairie Dogs' Knoll (eighty feet in diameter), and capped with cut stone, on which the iron fence will be erected by May 15.

Excavations have been made for the walls and stone work of eight Wolf and Fox Dens, and the walls have been laid ready for the cage work.

About five hundred cubic yards of sandy earth have been hauled to the Pheasants' Aviary, to make dry ground for the runways. This was removed by necessity from the Bear Dens, at no cost to the Aviary.

The excavation for the Beaver Pond has been completed, and all the grading necessary thereto; the iron fence has been made, and a suitable foundation wall to support it is now being constructed.

The excavation necessary for the Buffalo House has been completed, and the foundation and side walls are ready for the wood-work.

Stone walls have been laid, with proper drainage, at the Burrowing Rodents' quarters, to carry the fences. Total length of walls, 643 feet.

A considerable amount of grading has been done on the eastern side of the hill for Mountain Sheep in properly exposing the rock; and a great quantity of loose stones and rubbish has been removed from the base of the hill to increase its height.

One thousand feet of plank and 500 feet of macadam road have been built to enable teams hauling materials to reach the Reptile House and Bear Dens; and about 1000 feet of plank walks have been built for temporary use. A large temporary wooden shed 28x96 feet has been erected for use as a general storehouse, stable, tool-house, etc.

Several thousand cuttings of willow and other species of trees and shrubs have been prepared for planting during the spring, and several hundred indigenous shrubs and tree sprouts have been gathered into a small nursery. A three-acre nursery has been established in the Northeastern portion of the Park, on ground that has previously been used for agricultural purposes, and is well screened from observation.

## EXPENDITURES AND ESTIMATES.

The operations of the Society in the Zoological Park are best shown by the following list of improvements, expenditures and estimates, revised to May 1, 1899.

	Cost to Date.	Cost to Complete.
Reptile House .....	\$10,672.59	\$23,006
Bird House .....	10,428.33	6,467
Cage work for Reptile House.....	.....	2,717
Elk House .....	1,697.83	Complete
Buffalo House .....	865.07	1,308
Bear Dens, )		
Wolf Dens, ) .....	3,659.91	8,452
Fox Dens, )		
Pheasants' Aviary .....	45.00	3,155
Ducks' Aviary .....	1,144.60	535
Beaver Pond .....	819.04	1,249
Prairie Dogs' Knoll.....	396.75	345
Flying Cage .....	224.75	6,000
Burrowing Rodents' Quarters.....	519.72	937
Crocodile Pool .....	404.90	895
Mountain Sheep Hill.....	379.55	900
Otters' Pool .....	.....	500
Antelope House .....	392.87	30,000
General Construction .....	2,922.22	.....
Architects' Commissions .....	3,360.80	1,760
	<hr/>	<hr/>
	\$37,933.93	\$88,224

In addition to the above expenditures, the Society has been compelled to expend in temporary road making, drainage, etc., a considerable sum from its Building Fund. These expenditures were made very reluctantly, and only because they were absolutely necessary in order that building materials might be hauled to the buildings now in progress, and because the roads and sewers to be constructed by the City are not yet ready for use.



MAIN HALL OF THE REPTILE HOUSE, MARCH 31.



AN ANGLE OF THE REPTILE HOUSE, APRIL 5.



## GROUND IMPROVEMENT EXPENSES.

Plank and stone roads, walks, drainage, grading, etc. . . . .	\$2,836.61
General Forestry work and Maintenance. . . . .	237.44
Engineering, for all purposes. . . . .	1,566.91
Store House . . . . .	551.50
Insurance . . . . .	46.38
	<hr/>
	\$5,238.84
Total expended from Building Fund, to May 1. . . . .	43,172.77

## THE CITY AND THE ZOOLOGICAL SOCIETY.

Soon after the new administration came into office it was definitely learned that the new Board of Parks was very friendly toward the new undertaking, and would promote it to the limit of its power. The debt limit question made it necessary to postpone for several months our application for the appropriation to be granted by the City for ground improvements; and when it became positively known that no new city bonds could be issued without an amendment of the Charter, the outlook was decidedly doubtful. Fortunately, however, it was learned that the Mayor was well disposed toward the plans of the Zoological Society; and when, upon June 21st, an application for \$125,000 to be expended on ground improvements was presented to him, it was promptly taken up by the Board of Estimate and referred to Comptroller Coler for report. Later on it was also referred to Corporation Counsel Whalen. Both reports were favorable; but it was declared to be impossible to provide, in 1898, so large a sum as \$125,000.

In view of the fact that half the year had then passed away, and that it would be almost impossible to complete all the ground improvements during the year 1898, the Society proposed that one-half the whole sum be appropriated for use during that year, at the same time agreeing to expend from its Park Improvement Fund an amount equal to any appropriation the City might choose to make. On July 27th, without a voice being raised in opposition, the Board of Estimate appropriated \$62,000, and made it immediately available for expenditure by the Commissioner of Parks for the Borough of the Bronx, Hon. August Moebus, in accordance with the plans of the Zoological Society.

During the summer the attention of the Department of Sewers was called to a very offensive stream of sewage from Belmont, which empties into the Zoological Park and flows through Birds' Valley on the surface. Plans for a small sewer were prepared, and Acting Commissioner Donohue, upon the recommendation of Deputy Commissioner Byrnes, applied to the Board of Estimate for \$2,250, with which to construct the sewer. The amount applied for was promptly granted, and a contract for the work was let on November 30th. Owing to the severity of the winter the work of construction was greatly delayed, but the sewer is now complete.

#### GROUND IMPROVEMENT WORK BY THE CITY.

The fund of \$62,000, appropriated by the Board of Estimate for 1898, was placed to the credit of the Department of Parks, and became available on July 28th. On August 1st, the plans and specifications for all the ground improvements to be made in the Zoological Park by means of that fund were submitted to the Board of Parks, and promptly approved. These plans were immediately taken in hand by the Chief Engineer of the Park Department, Mr. Daniel Ulrich, and steps taken to carry them into effect.

On August 29th, the City's work was inaugurated at the Aquatic Rodents' Pond, where a force of teams and laborers began to excavate a bog of rich, black earth, and convert a nuisance into a feature of use and beauty. This work was prosecuted throughout the autumn, and was almost completed when the great storm of November 24th stopped all work for an indefinite period. It is now certain that this pond cannot be completed until about June 1, 1899.

On November 7th, William Masterson began to excavate, at his own expense, a large quantity of earth from Cope Lake, to be used in completing his contract for the construction of the Pelham Avenue roadway. Since that date a large quantity of earth has been removed from the lower end of the lake, and about one-third of its entire area has been graded nearly to the bottom level. The completion of this commanding landscape feature of the Park is a matter of pressing importance, and its expense will probably have to be met from the fund of \$10,000 now available for grading and excavating Baird Court and its surroundings.

The present operations of the City in providing ground improvements may briefly be summarized as follows:

Walks of stone and gravel, from 12 to 20 feet in width, 134,000 square feet. ....	} Contract let on Dec. 22, 1898, to Bart. Dunn, for	
Croton water pipes, to reach collections to be installed in 1899 .....		
Sewers leading from first buildings, aviaries, and dens.		
Service road of Telford macadam from Southern Boulevard to Reptile House. ....		
Drainage as necessary for roads, walks, and buildings.		
Macadamizing corrals for large animals. ....		\$33,375.00
Fencing for animal ranges, corrals, and boundary of Park, contract let on March 9 to the Page Woven Wire Fence Co. (work to be completed by July 1)		10,802.50
Expended to date on pond excavation about. ....		4,500.00
To be expended on pond excavation. ....		500.00
Balance available for restaurant, entrances, workshops, engineering, etc. ....		13,625.00

In view of the fact that no extensive park improvements can be made by the municipality without the lapse of several months spent in preparation therefor, on January 17th the Society presented to the Board of Estimate and Apportionment a request that the remaining \$63,000 be appropriated and made available. In response to a request from the Mayor for specific information regarding the amount expended by the Zoological Society, and its obligations on contracts for work in progress, a schedule was submitted on March 7th, showing all contracts and requisitions either completed or in force for the Society's work in the Zoological Park. Immediately following the receipt of this schedule, the Board of Estimate and Apportionment adopted a resolution authorizing the Comptroller to issue bonds of the City of New York to the amount of \$63,000 "for the purpose of providing means for the improvement of that portion of Bronx Park allotted and set apart to the New York Zoological Society and for the construction and equipment of buildings thereon."

The schedule of estimates submitted to the Board of Estimate, showing the purposes to which it is proposed to devote this fund, and to which no objection was offered by the Board, is as follows:



SCHEDULE OF GROUND IMPROVEMENTS TO BE MADE IN THE NEW YORK ZOOLOGICAL PARK IN 1899 AND 1900, AND PAID FOR FROM REMAINDER OF THE FUND APPLIED FOR JUNE 21, 1898, \$63,000.

Preparation of Baird Court for Buildings:

For excavating earth and rock to a uniform level of 64 feet; filling as necessary for Monkey House and on east side of Court; for grading, resurfacing, seeding, and building retaining walls as necessary .....	\$10,000
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Croton Water Supply Pipes:	}	6,600
1,000 feet 6-inch main .....		
3,558 feet 4-inch main .....		
500 feet 1½-inch main .....		
Sewers:	}	
1,500 feet of 12-inch .....		
1,240 feet of 10-inch .....		
2,688 feet of 8-inch .....		

System of Walks:

For extension .....	\$16,000
For asphaltting surface of walks constructed in 1899 .....	10,800—\$26,800

Service Roads:

Extensions to Workshops and Bear Dens ..	2,000
Benches .....	1,500
Completion of Workshops, Stables, etc.....	2,000
Entrances .....	1,500
Large Restaurant .....	7,000
Macadamizing additional yards for animals .....	3,000
1,000 cubic yards sand for Ponds.....	1,300
Boat House .....	1,300

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\$63,000

## MAINTENANCE OF THE ZOOLOGICAL PARK.

During the preparation of the annual estimates for 1899, Park Commissioner Moebus requested the Society to forward a memorandum stating the amount of money likely to be required for the maintenance of the Zoological Park during that year and the purposes for which it would be expended. The Society applied for \$60,000 for the year, furnishing a detailed statement of the various expenditures necessary. The Commissioner called upon the City treasury for \$30,000 as a maintenance fund for six months, with the understanding that if the Zoological Park is stocked with animals early in 1899 it will be proper to apply later in the year for whatever supplementary appropriations for maintenance may become necessary to carry the institution through the year.

It is to be noted, therefore, that the City of New York is faithfully and cheerfully performing all its obligations toward the Zoological Park. Every department which the officers of the Society has been obliged to call upon for assistance—the Board of Estimates, the Finance and Law Departments, and the Departments of Sewers, Police, Water, and Fire—each has responded promptly and in a spirit of cordial helpfulness which has not only materially aided, but very greatly encouraged, the Society in the execution of its great task. It is this spirit of co-operation which now renders it absolutely certain that the Zoological Park will be to this city not only all that its founders have desired, but even more.

## PROTECTION OF OUR NATIVE ANIMALS.

Owing to the great pressure of work for the Zoological Park the Society has not been able to devote to this important object more than a small proportion of the effort it would gladly have put forth. Our members are again reminded that the protection of our native animals is one of the three great objects for which the Society was organized.

Despite the pressure of other business, however, the Society accomplished during the past year one task in this line which it is safe to say has proven of great importance, if not of practical value, to our native birds. In accordance with a resolution adopted at the last annual meeting, the Director made a systematic inquiry,

which was the first ever made, covering nearly the whole United States, into the present condition of bird life as compared with fifteen years ago, and the causes for any important changes which have taken place. The result of this inquiry, when published in the Society's Second Annual Report, showed such startling percentages of decrease, it attracted wide attention to the subject, and aroused bird lovers quite generally. One thousand separate copies of the Report were printed for the benefit of those who were actually working for more effective protection for our birds. At the request of Senator Hoar a copy of this Report was sent to each member of Congress to aid the passage of the Senator's bill for bird protection.

At a recent meeting of the Executive Committee it was unanimously voted that the sum of \$100 be paid into the treasury of the League of American Sportsmen, to be expended by its State Warden for New York, Mr. A. E. Pond, a member of this Society, in field work in the protection of birds and quadrupeds. In view of the fact that this League, which is chiefly managed by men who are members of our Society, is appointing and maintaining wardens all over this State, its practical field work is more effective and far reaching than that of any similar organization. It is to be hoped that other scientific societies will also aid in sustaining the field work of the League.

#### EXHIBITIONS AND PUBLICATIONS.

In April, 1898, the Society published its Second Annual Report, and in December News Bulletin No. 3 was issued. The Society made an exhibit at the Annual Exhibition of the Academy of Science, and at the Architectural League's Annual Exhibition, held in February of last year, the preliminary studies of the larger buildings for the Zoological Park were shown.

#### GIFT TO THE SOCIETY.

*Animal Drawings.*—The Committee takes great pleasure in announcing the receipt of a valuable gift from five of its members—Messrs. Edward J. Berwind, Henry W. Poor, Charles T. Barney, Charles A. Peabody, Jr., and John L. Cadwalader—consisting of fifty original drawings of American animals by Ernest Seton

Thompson, also a member of this Society.\* This collection is specially intended to form a part of the artistic equipment of the proposed school of animal painting and sculpture. The following is a list of the subjects represented:

Elk and Mountain Lion.	Polar Bear.
Black Bear.	Gray Wolf and Deer.
Arctic Fox.	Fox and Rabbit.
Otter and Fisher.	Martin and Squirrel.
Mink and Rabbit.	Badger.
Ocelot.	Bassarid.
Ermine.	Wolverine.
Raccoon.	Spilogale.
Fur Seal.	Harbor Seal.
Caribou.	Musk Ox.
Rocky Mountain Goat.	Peccary.
Musk Rat.	Beaver.
Porcupine.	Wood Rat.
Kangaroo Rat.	Pocket Mouse.
Cotton Rat.	Jack Rabbit and Kangaroo Rat.
Woodchuck.	Rabbit and Woodpecker.
Flying Squirrel.	Pocket Gopher.
Striped Gopher.	Jumping Mouse.
Rocky Mountain Gopher.	Marsh Rabbit.
Marsh Rat.	Little Chief Hare.
Chipmunk.	Least Shrew.
Vole.	Star Nosed Mole.
Manatee.	Sperm Whale.
Dolphin.	Finback Whale.
Porpoise.	

#### OPENING OF THE ZOOLOGICAL PARK.

A year ago it was hoped that the improvement of the Zoological Park could proceed so rapidly that the Park might be opened to the public in May, 1899; but this hope has not been realized. The volume of work has proven so great and so complex, and the necessity for caution at every point has been so imperative, it has proven a practical impossibility to rush the work sufficiently to make possible a satisfactory opening on the date mentioned.

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\*The majority of these drawings measure 9x13 inches, but a few are 11x15.

Between the Society and the Park Department, reckoning the erection of buildings, dens, aviaries, and ponds, and the construction of roads, walks, sewers, steps, fences, and grading, work is now proceeding at about twenty-five different points. If the rapid progress now being made all along the line can continue without interruption for three months, the Society will be ready to welcome the public at the Zoological Park about July 15th. It is of course to be understood, however, that by that date only certain portions of the general equipment will be in readiness, and that work must progress steadily for about three years ere the Society will reach a point where it may pause in its labors and look back upon its work.

Respectfully submitted,

HENRY F. OSBORN, *Chairman*.

MADISON GRANT, *Secretary*.

#### EXECUTIVE COMMITTEE:

LEVI P. MORTON, *ex-officio*,  
HENRY F. OSBORN, *Chairman*,  
JOHN L. CADWALADER, *Counsel*,  
CHARLES E. WHITEHEAD,

JOHN S. BARNES,  
PHILIP SCHUYLER,  
MADISON GRANT,  
W. W. NILES, JR.

#### FORM OF BEQUEST.

*I do hereby give and bequeath to the "NEW YORK ZOOLOGICAL  
SOCIETY," of the City of New York,*.....  
.....  
.....



EXCAVATING THE CROCODILES' SUMMER POOL.



THE EXCAVATION.



## REPORT OF THE DIRECTOR OF THE ZOOLOGICAL PARK.

When a city is so rich in park lands that such a magnificent temple of nature as South Bronx Park can lie for fourteen years practically unknown and wholly unappreciated, that city is to be envied. To persons living elsewhere, the profound ignorance of the majority of our people respecting the public land now known as the Zoological Park is one of the wonders of New York. Even to-day, notwithstanding all that has been published of descriptions and maps, a large percentage of the residents of this city who set out to make their first visit to this tract strike a mile wide of the mark and land in the upper end of the Botanical Gardens.

Of all the 4,500 acres of public parks acquired in the annexed district during 1884 no other portion has remained for all that period so thoroughly unknown, so overlooked, and so neglected as the 261 acres of South Bronx Park. The last serious question as to its immediate future was settled on July 27, 1898, when Mayor Van Wyck and the Board of Estimate and Apportionment appropriated the first instalment of the city's fund for ground improvements, and made it immediately available.

On August 1 the Zoological Society submitted to the Board of Parks its plans and specifications for those improvements, and without further ceremony came into possession, as custodian, of the allotted land. At that time the site of the Zoological Park was an unbroken wilderness, to the eye almost as wild and unkempt as the heart of the Adirondacks. It was a jungle of ragged forest trees, brambles, bushes, and tall weeds. There were three extensive bogs, in any one of which an elephant might easily have become entombed. Poison dogwood and poison ivy grew in many places, and a deadly sewer stream flowed for nearly half a mile on the surface of what is now Birds' Valley. Throughout the whole 260 acres there was not a drop of drinking water available, not a seat, sidewalk, nor shelter of any kind other than those which nature had provided. Worse than all else for personal comfort,



the tangle of tall weeds, blackberry bushes, and green-briar which grew up from the earth was met by the low-drooping branches of the trees, and the breathing of the forest was seriously obstructed. The heat was intense, and the mosquitoes were very troublesome. It was a rare sight to see in the Park any other visitors than those of the kind parks are best without.

Such was the condition of South Bronx Park last summer when it passed into the control of this Society. Fairness to the Department of Parks demands at this point the statement that in view of the agreement existing between the Zoological Society and the city, the Department had, during the first half of 1898, purposely refrained from clearing the ground of weeds and surplus undergrowth, as would otherwise have been done. This was directly in the interest of the Society, and was due to the friendly forethought of Commissioner Moebus, not to neglect.

#### FIRST WORK ON THE GROUNDS.

On August 1, 1898, the Zoological Society assumed control of the Zoological Park site by erecting at various conspicuous points in and around the grounds a series of permanent signs, partly as a notice of possession, partly as a warning against the infliction of damage, and also as an invitation to the public generally to co-operate with the Society in its efforts to preserve the natural beauties of the Park.

For many reasons it was indeed high time for South Bronx Park to receive the diligent care which at present could come to it only from a large body of individuals specially interested in it. Previous to 1898 the very scanty attention available for it from the Department of Parks, which had then its own police force, caused it to suffer damage from the neglect of its forest growth and also at the hands of malicious persons who regularly raided it for firewood. Westward and southward of the Zoological Park live many Italian laborers who during past years have become thoroughly grounded in the conviction that it is right for them to cut any tree in Bronx Park which they can cut without detection, and to remove anything that can be carried away.

Finding that in their raids for fallen timber these parties did not always respect lumber and living trees, it was forbidden that any firewood should be removed from the Zoological Park. To this the raiders paid not the slightest attention, until personally

ordered to desist. Even then the raids continued. The police captain of the Forty-first Precinct was appealed to, and promptly doubled the force of policemen patrolling the Park. The raiders cunningly dodged the policemen, and very defiantly went on. Further reports to Captain Fitzpatrick resulted in the detailing of two detectives in citizen's clothes, who promptly arrested a number of persons, and, for a time at least, checked the ardor of the others.

But even now the Zoological Park is by no means secure from damage at the hands of miscreants. The setting of forest fires and the destruction of valuable trees by tramps and boys engaged in smoking out squirrels, has indeed been permanently stopped; but not until several of the Society's regular employees are commissioned as special policemen, and a sufficient number of depredators caught red-handed and severely punished, will the Zoological Park be known as a good place for miscreants to avoid. In view of this necessity the Executive Committee has already secured the appointment of the Society's Chief Forester as a special policeman.

#### CIVIL ENGINEERING WORK.

Ever since January 1, 1897, Messrs. William Barclay and H. de B. Parsons have been the consulting engineers of this Society and furnished advice and services as occasion required. During the year 1898 the most noteworthy service rendered by them was the planning of a very complete and perfect, as well as economical, system of water supply and sewerage for the whole of the Zoological Park that is to be devoted to collections. They also designed a highly satisfactory system of plumbing for the Bear Dens and the steel-pipe skeleton frame to carry the wire netting of the Flying Cage. It is only just to add that because of the fact that their services were required by a scientific society, and not by a money-making concern, these gentlemen have voluntarily rendered bills for less than half the sums that would otherwise have been charged as a fair compensation.

In addition to the valuable services of our consulting engineers, Mr. George M. Beerbower was regularly employed as engineer and draughtsman to stake out on the ground the various lines of the official plan of the Zoological Park, and perform general work in his line. Survey work was prosecuted vigorously throughout

the summer of 1898. At its inception, the Director applied to the Park Department for the Borough of the Bronx for a force of men to work under his supervision in mowing weeds, grass, and brush from the sites of various installations for animals which were about to be erected. The labor requested was immediately supplied by Commissioner Moebus, and one after another the sites of the Bird House, Flying Cage, Reptile House, Bear Dens, and Wolf and Fox Dens were cleared. This force was kept at work until all the rank weeds which obstructed our surveys had been mown down and burned. Finding that in several places quantities of unsightly and worthless bushes still obstructed the lines of walks and fences, two picked men, one furnished by the Park Department and one by the Society, were detailed to clear away such underbrush as was from time to time marked by the Director in person for removal. This removal of underbrush was chiefly confined to proposed fence lines, walks, and pond sites, and carefully avoided interference with any shrubbery which may become of landscape value.

With the completion of this clearance work it was possible to see, satisfactorily and adequately, the exact character of each portion of the Park which is to be utilized as an individual feature, and the advantages gained by this work very greatly benefited subsequent work.

Prior to August 1 our engineer made an elaborate series of profiles of the ground and rock ledges which enter into the construction of the twelve large open-air yards for bears, wolves, and foxes, and also prepared suitable ground plans for the three series of dens. Owing to the fact that the steel cage-work is to be fitted against, and also upon, irregular ledges of natural rock, the engineering work necessary was very considerable in amount, as well as exacting in its requirements.

Not only were all the fourteen improvements now under construction accurately located and staked out by the Society's employees, but also the fence lines and shelter houses of all the ranges for large game, and all the buildings of Baird's Court. All masonry and excavating done by the cubic foot under contract is measured and calculated by our own force, and a very considerable amount of general work has been done under the personal supervision of our engineer.



ESTABLISHING WATER LEVELS AT THE DUCKS' AVIARY.



ERECTING DUCKS' SHELTER HOUSES.

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## SPECIAL IMPROVEMENTS BY THE DIRECTOR.

A number of installations for animals are being constructed, partly by day labor and partly by contract, under the personal supervision of the Director. These are the Ducks' Aviary, the Beaver Pond, the Prairie Dogs' Knoll, the Burrowing Rodents' Quarters, the Mountain Sheep's Hill, Pheasants' Aviary, Crocodile Pool, Aquatic Rodents' Pond, and Otters' Pool. A brief memorandum regarding each of these improvements may be of some interest.

The Ducks' Aviary is designed to accommodate about thirty species of wild ducks and geese, separately installed, and also one mixed flock of large and showy species. Between the site of the Flying Cage and Cope Lake about three acres of level, swampy ground have been converted into ponds containing three islands, the surfaces of which are high and dry. Two of these islands have been laid out to form fifteen separate enclosures, each one of which, when fully completed, will contain an area of running water, with sandy banks, grass, shrubbery, a sanded runway, and a room in a low and inconspicuous shelter-house. Every yard is thoroughly under-drained. The outer boundary fence will be a barrier to rats and weasels, and all the fences will be low and inconspicuous. This aviary will be completed about May 15.

The Beaver Pond is situated in the wildest and most secluded spot in the Zoological Park, in a narrow valley between two timbered ridges of granite rock which rise quite steeply to a height of about seventy feet. Heretofore the valley has been an impassable bog, choked with weeds, but sufficiently free from forest trees that a pond area of about two acres has been secured. In order to obtain a good depth of water, and prevent too great an accumulation of back water, about two feet of earth was excavated and deposited in suitable places on the banks. About a dozen small maple trees, now standing on tiny islets in the pond area, will be given to the beavers to cut down for use as food wood and materials for their dams. The large and valuable trees within the enclosure will, of course, be protected from all injury. An iron fence three feet in height is now being constructed to enclose the area to be devoted to the beaver colony. Beyond question, the work of the beavers in dam-building, tree-cutting, and house-making in this ideal situation will prove of general interest.

For the Prairie Dog colony a fine, open knoll near the Antelopes' Range has been encircled by a stone wall going down to bed rock, and thoroughly drained. The enclosure is eighty feet in diameter, and the earth within it is undisturbed virgin soil, admirably adapted to the wants of burrowing animals. The depth of earth varies from three to eight feet. The wall is now ready to receive the iron fence, which has been completed and will be erected very shortly.

The Burrowing Rodents' Quarters represent a feature never yet seen in a zoological garden,—a series of thirteen roomy open yards of clean, dry soil, each enclosure to contain either one or two important representative species of our native marmots and ground squirrels, of which our fauna possesses such an immense number of distinct forms. The stone walls of this installation are now complete, and the iron-work will be added early in the summer.

The Mountain Sheep's Hill and shelter-house are so far from completion that further reference to them will be deferred; and the same may be said of the Otters' Pool and Pheasants' Aviary. It is hoped that both these, however, will be completed during the spring.

To obtain a large summer pool for the use of the crocodiles and alligators, a beautiful natural basin in the granite ledge adjacent to the southeastern corner of the Reptile House has been lengthened by excavating soil and rock, to a total length of 100 feet. Thanks to the natural seams in the rock, the sides of the pool are of Nature's own finish, and no signs of blasting will be visible. The pool is water-tight, and when enclosed by a suitable iron fence it will undoubtedly prove a very novel and attractive feature of the reptilian display. This will be ready for use about June 1.

On such work as that involved in the foregoing installations the Society has found it very advantageous to employ intelligent laborers—citizens of this country and city—working by the day. Under capable and conscientious foremen, and a fair rate of pay, the Society has been able to accomplish some very difficult work in a satisfactory manner, in quick time, and at very reasonable cost. It is a pleasure to state that even the day laborers employed by the Society take a personal interest in their work, and willingly render as diligent service as we are accustomed to believe can be obtained only by contractors. It is to be understood, however, that selection has much to do with the formation of a good force of workmen.

## FORESTRY WORK.

From the first moment of possession the Zoological Society has recognized the serious nature of the responsibility it has assumed touching the protection and preservation from decay and general deterioration of the magnificent forest in the Zoological Park. It has long been apparent to the Society that its duty toward the trees and shrubs of the Park is not even second to its obligations toward the live animals which soon will be installed. A live animal can nearly always be replaced, usually within a few months; but a century-old oak tree or chestnut, a giant tulip or elm, when once dead through decay and neglect, is gone forever. And the death of a large forest tree anywhere within the limits of New York City is nothing less than a calamity.

In view of the condition of our forest, and the work necessary to its proper preservation and maintenance, the Society resolved to assume all responsibility therefor, and charge the cost of labor and materials to the regular maintenance fund. At first it was thought desirable to defer all forestry work until January 1, 1899, when the maintenance fund would become available; but the visible deterioration of the forest was so great it was found impossible to wait for city funds. In October the Society selected and appointed an experienced and energetic man, Mr. Herman W. Merkel, as Chief Forester, and supplied him with laborers, tools, and materials. The work of preservation was begun forthwith and prosecuted with vigor throughout the entire winter. Until January 1st the cost of this work was met by the Society, but on that date it became chargeable to the maintenance fund.

*Preservation.*—The most serious task in this branch of work lies in preserving from death by drought the hundreds of trees now in imminent danger because of the thinness of the soil in which they stand. Thousands of loads of soil must be hauled and spread over several granite ledges whereon the soil is now too thin for trees to long endure. Hundreds of trees are endangered by decaying cavities that are steadily eating, ulcer-like, into their trunks. Many fine chestnut and oak trees have been partially burned out at the root by fires that were purposely built against or within them. All such cavities, whether due to fire or decay, require to be filled up, water-tight, either with stone and Portland cement, or with pieces of zinc very carefully fitted. All dead limbs



require to be cut away, and hundreds of dead trees which are literally a standing menace to the safety of the public must be cut down and removed.

The work of preservation, as it has been carried on by the Chief Forester and a force of from eight to twelve trained men, has been very interesting, and at a later date will be reported upon in detail. During the month of February, for example, the dead limbs were removed from 202 trees, 33 dead trees were removed, and the trunks of 19 trees were filled in with masonry. In removing dead wood from some of the larger trees sometimes as many as 200 cuts were necessary.

*Propagation.*—Equal in importance with the preservation of the existing forest growth in the Park is the work of propagation. The creation of extensive border plantations along the Southern Boulevard and Kingsbridge Road is the most urgent demand, and one which will receive attention as rapidly as climatic conditions will allow. Along with this, a great amount of careful planting must be done around Cope Lake, on Audubon's Hill—which is capable of development as a pinetum—and, to a limited extent, in the ranges for big game. Hot-beds were started early in March, and as soon as possible a commodious greenhouse should be erected. For some years to come the border plantations can be used as nurseries for many kinds of young trees.

During the autumn and winter Mr. Merkel prepared several thousand cuttings of native trees and shrubs, planted in seed-boxes about 100 kinds of seeds, and in March established a small nursery on a bit of tillable ground in a secluded spot near the northeastern corner of the Park. A small shed was erected at that point, in a clump of bushes, for the proper administration of the nursery and other work on the eastern side of Bronx Lake. This nursery will be of great value to the Park, not only for the propagation of trees and shrubs, but also as a storage place for the stock that will be purchased of nurserymen prior to its final setting out on the grounds.

In a short time the completion of the Reptile House will furnish a conservatory which will be of great value in connection with the extensive supply of living plants that must be provided for the larger animal buildings, for which purpose it was specially designed.

## THE CITY'S WORK.

The work to be done by the Department of Parks under the head of Ground Improvements began on August 29th in excavating for the Aquatic Rodents' Pond. The pond was staked out, and levels given, by the Society's surveyor, and the work was conducted throughout to meet the Society's wishes. On account of the presence of a remarkable terminal moraine, of glacial bowlders, at the north end of the pond, clearly marking the southern end of a glacier, it was necessary to alter slightly the intended shape of the excavation in order to avoid an expense which would have made the pond almost impossible. As a result, the shape of the completed pond will be almost identical with its outline as laid down provisionally on the preliminary plan of the Park. Owing to the soft nature of the ground, the excavation of this pond was more difficult and expensive than had been anticipated. Its completion will consume all of the \$5,000 allotted for pond excavating, leaving the Elks' Pond to be provided for from some other source.

Cope Lake has been partly excavated by the contractor for Pelham Avenue, who required earth in order to meet the terms of his contract. The remainder of this very important piece of work, without which the north end of the Park will be exceedingly unsightly, will have to be paid for out of the item of \$10,000 for excavating that has been allowed by the Board of Estimate in the appropriation of \$63,000 recently granted.

By great good fortune, Pelham Parkway has recently been improved all the way through Bronx Park, and our northern boundary boulevard is now handsomely and permanently completed. The general level of the roadway has been raised about five feet. It is now possible for the Society to make all its projected improvements in the northern end of the Park at an early date and give them a permanent character. The view of the Zoological Park from Pelham Parkway promises to be very fine.

It is almost unnecessary to state that the amount of filling, grading, and modelling to be done in the northern end of the Zoological Park is really great, and it would be very much to the interest of the city, financially, if the work necessary could be performed by a selected force of laborers and teams working under the direction of our own foremen.

A very important piece of work to be done by the city forth-

with from the remaining \$63,000 of the improvement fund, recently appropriated, is the levelling of the top of the hill in Baird Court, between the Lion House and the Monkey House. The material removed will be used as filling for the low ground along the eastern side of the glade, where it is very necessary for the requirements of the Monkey House.

Stated in the briefest manner, the quantities of work contracted for by the city on December 22d, and to be performed in 150 consecutive working days, are as follows:

Gravel walks to be constructed.....	134,000 square feet
Service road of macadam .....	1,253 lineal feet
Water mains and supply pipes.....	6,660 feet
Sewers and drains for walks and roads	6,050 feet.
Stone steps .....	2,000 feet
Macadamizing of animal corrals.....	3,700 square yards

Mr. John P. Schermerhorn, Assistant Engineer, has been specially detailed by Commissioner Moebus and Chief Engineer Ulrich to take charge of all the Park Department's work in the Zoological Park, and, in order that he may be able to exercise constant supervision, an office has been provided for him within the grounds. In this connection the Director takes pleasure in recording the fact that all three of the officers of the Park Department named above are in full sympathy with the work of the Zoological Society, and join very heartily in the task of developing the general scheme of improvements so that it will fit the ground perfectly and satisfactorily.

On March 9th a contract for the construction of all the steel-wire fences for the animal ranges, corrals, and boundary of the Park, west of the Boston Road, was let to the Page Woven Wire Fence Company, of Adrian, Mich., at \$10,802, and the whole work will be completed about July 1st. As fast as these range fences are erected these important enclosures can be stocked with animals, in order that the Park may be opened to the public in July.

#### ANIMALS OFFERED AS GIFTS.

The following live animals have been offered to the Society as gifts for the Zoological Park: a Grizzly Bear, a Polar Bear, two Ocelots, two Gray Wolves, two White-tailed Prairie Dogs (very



REPAIRING FIRE DAMAGES, WITH MASONRY.



rare), one Porcupine, three Eagles, three Deer, and five Elk. For obvious reasons—lack of accommodations—all were reluctantly declined; but the Gray Wolves and rare species of Prairie Dogs are being held for us by their owners until the homes for those animals are ready. The Engineers' Club, of New York, has appropriated a sum of money for the purpose of purchasing a young Grizzly Bear, to be presented to the Society; and the Camp-Fire Club has resolved to present a Polar Bear as soon as the Society is ready to receive it.

It is hoped that as soon as the Zoological Park is ready to receive animals, gifts to it will be numerous and valuable.

#### CONCLUSION.

For the Zoological Society and its Park, the year 1899 is certain to be crowded with important events. It will be a year filled with labor and care. Pending the next publication of this nature, and during the hurly-burly of construction, of the selection of competent employees, the purchase and installation of animals, the establishment of rules and regulations, and of routine business relations with the various departments of the city government—for himself, at least, the Director craves the indulgence of the Society until the lapse of time has allowed a fair opportunity for the evolution of the order, and system, and general polish which eventually should characterize everything in or connected with our Zoological Park.

Respectfully submitted,  
WILLIAM T. HORNADAY,  
*Director of the Zoological Park.*

May 1, 1899.

# TREASURER'S

## For the Year ending

### RECEIPTS.

Annual dues from 410 members .....		\$4,100 00
Life membership fees, 15 @ \$200.....		3,000 00
F. H. Cook, dues for 5 years to May 1, 1903.....		50 00
W. G. Langdon.....		50 00
Founders' Fees :		
From Henry A. C. Taylor .....	\$5,000 00	
Percy R. Pyne, balance .....	2,800 00	
George J. Gould.....	5,000 00	
C. P. Huntington, balance.....	4,000 00	
Jacob H. Schiff, balance.....	4,000 00	
Levi P. Morton, balance .....	4,800 00	
W. K. Vanderbilt .....	5,000 00	
Wm. D. Sloane .....	5,000 00	
Wm. C. Whitney .....	5,000 00	
Robert Goelet.....	5,000 00	— 45,600 00
Associate Founders' Fees :		
From Philip Schuyler, balance.....	1,150 00	
John S. Barnes, balance.....	2,300 00	
Morris K. Jesup.....	2,500 00	— 5,950 00
Patrons' Fees :		
From Wm. C. Schermerhorn.....	1,000 00	
Charles W. Harkness.....	1,000 00	
J. Howard Ford.....	1,000 00	
Emily N. Trevor, balance .....	800 00	
George F. Baker .....	1,000 00	
H. O. Havemeyer .....	1,000 00	
Wm. Church Osborn.....	1,000 00	
Henry H. Cook.....	1,000 00	
H. McK. Twombly.....	1,000 00	
E. J. Berwind.....	1,000 00	
C. T. Barney .....	1,000 00	
James B. Ford .....	1,000 00	
Henry W. Poor .....	1,000 00	— 12,800 00
Subscriptions :		
From James C. Carter.....	1,000 00	
James T. Higginson.....	500 00	
Newbold Edgar .....	100 00	
Samuel D. Babcock.....	500 00	
Tiffany & Co.....	2,500 00	
E. G. Blackford.....	500 00	
J. W. Pinchot.....	500 00	— 5,600 00
Interest on Deposits :		
Fifth Avenue Trust Company.....	145 20	
Atlantic Trust Company .....	\$533 70	
	290 54	
	41 60	
	29 05	— 894 89 — 1,040 09
Henry F. Osborn .....		16 00
W. T. Hornaday, return of petty cash.....		2 00
Total receipts in the year 1898 .....		\$78,208 09
Add balance in Treasury December 31, 1897, as stated		
in last Annual Report.....		37,862 66
		\$116,070 75

Atlantic Trust Company, 39 William Street, New York,  
January 5, 1899.

# STATEMENT

December 31, 1898.

## EXPENDITURES.

Stationery and office supplies.....	\$248 58
Office furniture.....	184 19
Office rent.....	300 00
Maps, plans, and profiles, and material for same.....	376 39
Cost of Annual Report, 1898, and Bulletin.....	1,279 15
Photographs, prints, albums, slides for lecture work, etc.....	97 28
Engrossing and drawing.....	62 51
Architectural drawings.....	312 50
Stenographic work and typewriting.....	210 90
Press clippings.....	11 30
District messenger service.....	66 22
Shades, badges, battery wire, etc.....	50 15
Books.....	230 73
Surveying instruments, tools, ladders, lamps, stakes, signs, etc.....	233 77
Stoves, coal, etc.....	31 20
Advertising.....	100 00
Delivering reports.....	34 68
Telephone rent.....	16 65
Seal, engravings, etc.....	333 93
Expense of meetings, hire of hall, etc.....	88 55
Salary of Director.....	4,999 96
Clerical and other services.....	470 75
Engineers' and surveyors' wages.....	243 00
Labor.....	64 50
Draughtsman's wages.....	147 50
General expenses, including petty cash disbursed by the Director, for office and other expenses.....	511 93
Architects' commissions.....	1,050 00
Work on elk house, bear dens, etc.....	1,666 32
Granite, stone and brick work.....	6,296 75
Iron work.....	2,402 00
Lumber, brick, etc.....	142 88
Roofing slate and tile.....	108 84
Painting.....	52 97
Cement, sand, gravel, sewer pipe, and other materials ..	1,034 80
Excavating.....	2,714 63
Pay-rolls for labor, etc.....	1,750 99
Livery hire.....	10 50

Total disbursements in the year 1898..... \$27,937 00

Cash balance in Treasurer's hands (in Atlantic Trust Company) December 31, 1898, *subject to check*:

At credit of general account..... 510 67

At credit of "Park Improvement Fund"..... 17,623 08

Certificate of deposit in Treasurer's hands, *subject to use on April 1, 1899*: \*

Certificate of Fifth Avenue Trust Company ... 50,000 00

Certificate of Atlantic Trust Company..... 20,000 00—83,133 75

\* These sums, representing "Park Improvement Funds," were, pursuant to direction of the Executive Committee, placed as special deposits in the above trust companies for a period of ten months from June 1, 1898, *i.e.*, until April 1, 1899, at three per cent. interest per annum.

\$116,070 75

Respectfully submitted,

L. V. F. RANDOLPH, Treasurer.





FIELD NOTES ON THE LARGER MAMMALIA OF  
THE STICKINE, DEASE, AND LIARD RIVERS,  
N. W. BRITISH COLUMBIA.\*

BY A. J. STONE.

I have the honor to lay before the Zoological Society the following field notes of my observations throughout the Stickine, Dease, and Liard River basins, accompanied by two rough charts, such as I could prepare in the heart of this great wilderness.

A brief mention of the difficulties of travelling through this great stretch of inland waste may not prove amiss.

I left the Pacific coast by way of the Stickine River at Fort Wrangel, Alaska, the first of July, 1897. Part of my travel up the Stickine was by steamer and part by canoe. The end of canoe navigation is 175 miles from salt water. Although the Stickine carries a large volume of water, it is a swift and treacherous stream. Nearly the whole of its basin is mountainous, and it is fed by many large and important glaciers. The glacier region extends from very near the coast as far inland as the crest of the main coast range, though many smaller fields of ice continue to confront the traveller throughout all the headwaters, much farther inland.

The mountains throughout this region do not form into continuous ridges, but everywhere seem much broken and creviced,

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\* Dated at Ft. Simpson, N.W.T. June 30, 1898. Abstract read at the Annual Meeting of the Society on Jan. 10, 1899.

Mr. Stone is in charge of an exploring expedition known as Recreation's Northland Expedition, which for the past three years has been exploring the least-known portions of the far northwest, under the auspices of Mr. G. O. Shields' *Recreation Magazine*. The American Museum of Natural History is also interested in the scientific results of the work. Mr. Stone's first year in Alaska and British Columbia resulted in the discovery of a strikingly handsome species of mountain sheep, new to science, which has been described by Dr. J. A. Allen as *Ovis stonei*. Dr. Allen has recently described several new species of small mammals which were recently discovered by Mr. Stone.

and therefore the traveller must continuously ascend or descend these elevations, many of which are so steep as to render travel extremely difficult.

My party made two trips northward from the Stickine into the mountains, three to the south, and also followed the general course of the stream nearly to its source. Returning, we penetrated the Cassiar Mountains to the north of the Tanzilla, an important tributary of the Stickine. On all such side trips into the mountains, packs containing food, blankets, and necessary supplies must be carried, the weight of which must be determined by the distance to be travelled, and the time occupied in making the trip. Not infrequently the traveller's necessities burden him with a weight of 100 pounds.

From the head of navigation on the Stickine we transported our supplies on pack horses to the head of Dease Lake, a distance of 75 miles, from which point they were boated across the Lake, 24 miles. From thence we went down Dease River, the outlet of the lake, 170 miles to the Liard River, and down the Liard 85 miles to the mouth of Black River, the end of open water navigation on the Liard until after Hell Gate is passed, a distance of 110 miles from Black River. At that point winter overtook us.

During the winter the only dogs available for my use were kindly supplied by Mr. W. S. Simpson, who was trading in furs at this place. With the aid of the dogs we made an interesting trip on the ice up Black River in December, and in January sleighed our heaviest supplies down the Liard to Hell Gate and returned.

During February and March the snow was so deep as to render travelling next to impossible. During this period my help became discouraged at further travel toward the north, and left me. By the greatest effort I secured the help of one Indian and his team of dogs. I managed to purchase one excellent animal, but could get no more. With these dogs we sleighed the remnants of my outfit down to Hell Gate the first of April. The ice was badly broken, and heaved out of its shapely plane into very unsightly masses, with water almost everywhere covering the lower levels, through which we were compelled to wade for hours.

My Indian would not remain with me at Hell Gate, and I was left alone with my equipage among the worst lot of Indians known to the entire country. I could have proceeded on the ice to Fort

Liard, 120 miles down the river, but this would have meant the sacrifice of my outfit, a great part of which was necessary to the success of my trip. I therefore decided to protect my property if possible, and, after the breaking of the ice, make an effort to boat it to Fort Liard.

I could not secure any help from the Hell Gate Indians, for their only ambition was to rob me; and for about ten days they made my life almost a burden. First of all they insisted upon knowing what my cache contained. Failing in their attempts to find out, they began a campaign of begging, lasting daily from early morn until late at night. Failing to accomplish their purpose in that way, they began to offer insults and threats, until at last I was compelled to drive them from my camp with a club. Although I expected the affair to terminate in serious trouble, fortunately it resulted in the departure of the Indians from my camp, from whence they travelled toward their hunting grounds. After ten days of time lost in keeping these people at bay, I again found myself a free man. Immediately I set to work and moved my baggage and supplies (about 2,000 pounds) four miles farther down stream, to a place where I could get suitable material for constructing a boat.

I had not a particle of experience in boat-building, and although I possessed a saw suitable for cutting lumber, there was no one to assist in using it, and I was forced to build a boat without lumber. Canvas was my only resource, and with this I was fortunate enough to be supplied, although the quality was rather too light for the construction of such a boat as I required. However, I set to work cutting, hewing, and planing young spruce, and after a good many days of very hard work at last completed a good frame of bent timber. This frame I covered with spruce bark, to furnish a smooth support for the canvas, made my canvas into one sheet, seven feet six inches by twenty-five feet, and after gathering gum from the native trees, pitched one side of it, then stretched it over the frame, leaving the unpitched side out. After the canvas was securely fastened in place, I gave the outside a heavy coat of pitch, and my boat, twenty-four feet long and five feet beam, was complete.

The ice had been running for five days, and the river was almost clear of it. Getting under this immense boat, I moved it, "inch by inch," until the edge of the water was reached, and then man-

aged to roll it fairly into the stream. The next morning I loaded everything into my hard-earned craft, and was soon gliding down a swift and mighty river of which I had no personal knowledge. My boat was so large and so heavily laden it required all my strength and skill to manage it alone. Two days later, however, I reached Fort Liard in safety, and there I secured excellent help.

On my way from Fort Liard down to the Mackenzie I stopped at the Nahanna Mountains, a spur on the eastern slope of the Rockies, and made a successful hunt for the white mountain sheep (*Ovis dalli*). When selecting this route of travel, I knew it offered many obstacles to navigation, but I believed I could overcome them, and in doing so penetrate a vast area of country never (to my knowledge) yet explored by any one interested in natural history work. I also recognized that while the Rocky Mountain range—always prolific in animal life—had been quite fully explored throughout the States and lower British Columbia in the interest of natural history, its northern reaches seemed to be but little known, at least so far as a knowledge of its mammalia is concerned. I was therefore ambitious to penetrate this region, and decided to travel through the range from west to east by way of the Liard River, which cuts through the mountains at about 60° N. I also determined to penetrate them from the east at about 65° N., and again at 67° 30' N., and follow them from there to the Arctic coast.

I resolved to give no part of my time to ornithology, partly because my work on the mammalia and ethnology of that region would require all my time and means of transportation. I am forwarding to the American Museum of Natural History specimens from many localities along my route from which the identity of the smaller species collected by me will presently be learned. Meanwhile I summarize for the Zoological Society, as requested, a few facts in relation to the larger mammalia of the regions explored by me on the Stickine and Liard Rivers.

MOOSE.—Travelling up the Stickine, the range of the moose is entered about 160 miles from the coast, but individuals are not found in any considerable number until another 75 miles have been passed over. Throughout the headwaters of the Stickine, along the Dease River, and throughout the Liard River basin, moose can be said to be abundant. In the Liard basin are many thousand square miles of muskeg lands overgrown with willows

and scrubby brush, and even in the mountainous country many small muskeg valleys exist. Country of this nature is everywhere dotted with small swamp lakes. Many large tracts that are higher and more dry are frequently swept by fire, after which heavy crops of willow soon spring up through the fallen timber and afford ideal feeding grounds for the moose. Everywhere the country is difficult to traverse, even for the native. Compared with the size of the country, the number of Indians is insignificant, while of white hunters there are none. We may therefore conclude that the life of the moose is here well preserved, and that nothing will ever drive out these creatures unless some great change takes place in the character of the country or in the number of its inhabitants.

The females generally bring forth their young in close proximity to the streams, on the lower levels of the country, and on the islands in the large streams. The latter places are especially sought by them. These islands are generally well wooded, and furnish most excellent hiding places. Swimming to one of these islands, the female will travel its length and breadth. If food is to be had, if the surroundings are agreeable, and free from wolves and other enemies, she is most likely to remain until her offspring is sufficiently strong to follow her to the main shore. In making the trip through the water the mother has often been known, especially when the current is swift, to swim just below her calf, and in that way steer it safely across. On reaching the mainland they generally seek the higher ridges, and remain there until the heavy snows of the following winter drive them back to the low ground, which generally occurs in February. The bulls always precede the females to the hills by several weeks, but return with them in the winter.

Throughout this country the breeding season is from the latter part of September to the latter part of October, and the calves are usually dropped between May 20th and June 15th. Last fall I travelled through a splendid moose country during the entire breeding season, and my opportunities for observation, and for inquiry of the natives, gave me a very fair knowledge of the habits of this animal.

From May 1st to 20th of the present year I frequently visited Indian camps where female moose had just been slaughtered, and found that none of them had dropped their calves. On May 21st, when my party started for the Nahanna Mountains, we passed a

party dressing a female that had not yet dropped her calf. We travelled across muskeg, and up a small stream about thirty-five miles before reaching the mountains, reaching the foot of the range on May 22d. Tracks of adult moose were everywhere plentiful along this small stream, but no calf tracks were visible. On the 27th one of my party killed a cow and calf moose at the foot of the mountain, and the calf looked to be about a week old. Returning down this same stream the first week in June, calf tracks were often observed.

The females do not often attain a size equal to the largest males, but I do not believe the difference in the size of the adults is as great proportionately as in the caribou family. Throughout the entire Mackenzie basin the Hudson Bay Company are extensive purchasers of dressed moose, the weights of which are recorded, and I was informed by one of the oldest employees now in their service that the largest animal ever received by them was a female, received at Fort Norman, about 65° N., which weighed, when dressed, 672 pounds. When alive this animal would probably have weighed 1,300 to 1,400 pounds.

Two young are frequently produced at a birth, but very rarely three, though the Indians claim to know of cases. The moose may be considered to have but one enemy other than the native—the wolf; but they do not suffer much from his attacks, except in the deep, crusted snow of March.

WOODLAND CARIBOU.—Caribou are abundant throughout the headwaters of the Stickine and almost all its tributaries from the south; also on the headwaters of the Tooga, to the north, and on Level Mountain, between the Tooga and the Tahltan; but very few are found on the Tahltan. They are plentiful throughout the Cassiar Mountains and the main ranges of the Rockies, as far to the north and the south as I could trace them through the Indians, a distance of about 200 miles each way. For the present I am compelled to speak of them merely as woodland caribou, but I fully believe them to be a new sub-species. Having consigned specimens to the American Museum of Natural History, I await with much interest Dr. Allen's report upon their identity.

According to my observations these animals are as superior in size to the woodland caribou as the woodland are to the barren ground caribou. At no time of the year do they inhabit timbered country, but range in the high mountains the greater part

of the time. In the spring they follow the snow well back into the rugged mountains, working their way back in September to the high, bald ridges, and spend considerable time in the narrow and almost barren muskeg valleys, crossing from one high country to another. During heavy storms in winter they are sometimes known to come into the edge of the timber, remaining there during the storm only, but almost all of their feed is taken from the high country. Even in midwinter they will be found feeding in these high places, where the wind sweeps the snow off the moss, or where it is not too deep for them to paw it away. Their feeding grounds extend lower than those of the sheep, but lap far into it, stopping short of only the most rugged of the sheep paths.

This caribou is in every way a grand animal, and for many reasons I pronounce it the king of American game animals. In size it is equal to, if not larger than, the wapiti. The breeding season is almost identical with that of the moose found here. Seldom but one calf is dropped. The last of May and first of June is the period in which nearly all calves are dropped, though cases have come under my observation showing at least six weeks difference in the age of calves of the same summer, dropped in the same locality. Like the moose calves, they grow with great rapidity. I hope to continue my study of these animals further north in the Rockies.

**SHEEP.**—The *Ovis stonei*, or "black sheep," as the natives call them, are found throughout most of the mountain ranges in the upper Stickine country. In the Cassiar Range of the Rocky Mountains I traced them as far south as the headwaters of the Nass and the Nelson Rivers. Their northern limit in the Rockies, however, is reached soon after leaving the Liard River, toward the north. Beaver River, a tributary of the Liard, represents their northern boundary.

They range slightly higher than the caribou described. During the summer months the old rams seek seclusion in very rugged districts, feeding in the little canyons high up in the mountains and on the small meadows on the summit of the ranges they inhabit, growing very fat in these quiet retreats. Seldom do they congregate in very considerable numbers, rarely more than five being seen together. The ewes remain one floor below, where the table-lands or meadows are more extended, and if left undisturbed will be found throughout the entire summer season feeding



in the same localities in bunches of ten to thirty, showing more of an inclination to be sociable than the old males. They seldom drop but one lamb. The rutting season is in November, and the lambs are dropped between April 1st and May 1st, though in the first week of August, 1897, I killed a lamb that I am sure could not have been more than six weeks old. In the second week in August I killed one that was fully four months old. The young rams, up to three years of age, are very unsettled in mind, and range back and forth between the pastures of the females to those of the old males, doing a great deal of travelling, and consequently never acquire as much flesh as the old rams. Like the caribou, they rarely go into the timber, but feed during the winter on the high plateaus, where the wind-swept ridges are usually free from deep snow. During stormy weather they seek shelter among the rocks, in nooks that are protected from the piercing wind.

WHITE MOUNTAIN SHEEP.—I first came into the range of the *Ovis dalli* to the north of Beaver River, heretofore described, and I have every assurance that this is their extreme southern range in the Rockies. I also learned beyond doubt that the *Ovis stonei* and *Ovis dalli* do not intermingle in any way, and that the entire coat of the *Ovis dalli* is white the year round. Specimens killed by me in the Rockies, or, more properly, the Nahannas, a spur of the Rockies, in the latter part of May, showed both the old and new coats, and both were white.

Further studies of these animals will be made in their northerly ranges.

MOUNTAIN GOAT.—White goats are much more plentiful in the Coast Range than in the interior, though they are found in most of the rugged mountains of the entire country travelled by me, with one notable exception. Extending northward from the Liard for a distance of 100 miles, the Indians invariably agreed that no white goats are found in the Rocky Mountain range. The Indians hunt them but little, yet they do not seem to be found anywhere in very large numbers.

BEARS.—The Sitka bear is plentiful on the lower Iskoot, the principal tributary of the Stickine.

The common brown bear is plentiful throughout the first 100 miles of the Stickine as you proceed from the coast, but farther inland, along my route, becomes rare.

Grizzly bears in considerable numbers are found in all the mountains.

Black bears are found everywhere, and in many districts are plentiful.

MISCELLANEOUS SPECIES.—Large black and gray wolves are everywhere more or less common.

The wolverine is found everywhere, but in limited numbers.

Few beavers are found in the Stickine Valley, but they are found plentifully along the Dease and Liard Rivers.

Marten are found almost everywhere in timbered districts.

Otter are occasionally met with, but in very limited numbers.

Mink occupy the coast country in large numbers, but are not so common in the interior.

Lynx are everywhere, sometimes in large numbers, and then they seem to gradually disappear, and will not again be plentiful for several years. The people who inhabit the country claim that during seasons of scarcity in the rabbit crop the lynx die off in large numbers.

Foxes are most numerous and prolific in a belt of country about 100 miles wide, just inside of and following the main coast range. It is claimed that their fur is of superior quality.

Porcupines are plentiful throughout the Stickine and Dease River country, but are found in very limited numbers in the Liard River country.

Marmots are found throughout all the mountain ranges.

The pine squirrel is found almost everywhere that spruce grows.

Muskrats are found in limited numbers on the Liard River.

Ptarmigan and several species of the grouse family are quite numerous.

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12

# CHARTER

## OF THE

# New York Zoological Society.

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### CHAPTER 435.

AN ACT to incorporate the New York Zoological Society and to provide for the establishment of a zoological garden in the city of New York.

Accepted by the city. Became a law April 26th, 1895, with the approval of the Governor. Passed, three-fifths being present.

*The People of the State of New York, represented in Senate and Assembly, do enact as follows :*

SECTION 1. Charles A. Dana, Oswald Ottendorfer, Andrew H. Green, William H. Webb, Henry H. Cook, Samuel D. Babcock, Charles R. Miller, George G. Haven, J. Hampden Robb, Frederic W. De Voe, J. Seaver Page, Rush C. Hawkins, David James King, Wager Swayne, Charles A. Peabody, Jr., Charles E. Whitehead, Charles R. Flint, Samuel Parsons, Jr., Mornay Williams, Henry E. Gregory, Isaac W. Maclay, Isaac Rosenwald, Hugh N. Camp, Andrew D. Parker, Cornelius Van Cott, William F. Havemeyer, Frederick Shonnard, William W. Thompson, Alexander Hadden, Edward L. Owen, John H. Starin, Rush S. Huidekoper, William W. Goodrich, Albert H. Gallatin, Frederick S. Church, Edward C. Spitzka, Robert L. Niles, Madison Grant, C. Grant La Farge, William Van Valkenburg, and such other persons as may, under the provisions of its by-laws, become members of the corporation hereby created, are hereby created a body corporate and politic, by and under the name of the New York Zoological Society.

SEC. 2. Said corporation shall have power to establish and maintain in said city a zoological garden for the purpose of encouraging and advancing the study of zoology, original researches in the same and kindred subjects, and of furnishing instruction and recreation to the people, and may purchase and hold animals, plants and specimens appropriate to the objects for which said corporation is created.

SEC. 3. The managers of said corporation shall have power to make and adopt by-laws for the management and government of its affairs and business, for the admission, suspension and expulsion of its members, and for the terms and conditions of membership; to prescribe the number and mode of election of its officers; to define their duties; to provide for the safe-keeping of its property, and from time to time to alter and modify its by-laws.

SEC. 4. The affairs and business of said corporation shall be managed and controlled by a board of managers, the number of whom shall be prescribed by the by-laws. The first board of managers shall be divided by lot into three classes, equal in number, one of which classes shall hold office for one year, another for two years, and the other for three years; and all persons elected to be managers at any subsequent election shall hold office for three years, and until others are elected in their stead. There shall be a president, two vice-presidents, treasurer and secretary, to be elected by the board of managers annually, who shall hold office until others are elected in their stead. The first meeting under this act may be held at any time upon a notice of five days, signed by any five of the incorporators named in the first section of this act, fixing a time and place for such meeting, a copy whereof shall be mailed to each of said incorporators at his usual post-office address, and twelve of such incorporators shall be a quorum for the purpose of organization, adoption of by-laws and election of officers. No manager of said corporation shall receive any compensation for his services, nor be interested, directly or indirectly, in any contract concerning its property or affairs.

SEC. 5. Said corporation may raise money by the issue of its bonds, secured by a mortgage on any or all of its property not acquired from said city or state.

SEC. 6. Said corporation may take, purchase and hold real and personal estate necessary for the purpose of its incorporation, the net annual income of which shall not exceed fifty thousand dollars, and shall possess the general powers and be subject to the restrictions and liabilities prescribed in the third title of the eighteenth chapter of the first part of the revised statutes.

SEC. 7. The commissioners of the sinking fund of the said city are authorized in their discretion to allot, set apart and appropriate for the use of said corporation, any of the lands belonging to said city north of One Hundred and Fifty-fifth street, but not in the Central Park, and such appropriation may be revoked if, after the expiration of five years from the passage of the act, a zoological garden is not established thereon; said grounds thus set apart and appropriated shall be used for no purpose whatsoever except those aforesaid. As soon as any lands are set apart the Mayor of the said city of New York, and the President of the Department of Parks of said city, shall become and be ex-officio members of the board of managers of said corporation. If at any time the animals now composing the menagerie at Central Park shall be removed therefrom by the authorities having charge thereof, said authorities may make an arrangement with the incorporators named in this act or the corporation formed by them for leasing or sale of such animals to such incorporators or corporation, and said incorporators or corporation shall have a preference over any other person or corporation in respect thereto upon the same terms which said authorities could make with any such other person or corporation, or upon such other terms as to such authorities may seem proper, but nothing herein provided shall be construed as giving the

commissioners of the Department of Public Parks authority to sell, lease, transfer, or in any otherwise dispose of said animals or other property connected with or belonging to said menagerie.

SEC. 8. Admission to the said garden shall be free to the public for at least four days, one of which shall be Sunday, in each week, subject to such rules and regulations as shall be prescribed by said corporation.

SEC. 9. This act shall take effect immediately.

STATE OF NEW YORK, }  
OFFICE OF THE SECRETARY OF STATE, } ss.

I have compared the preceding with the original law on file in this office, and do hereby certify that the same is a correct transcript therefrom, and of the whole of said original law.

Given under my hand and the seal of office of the Secretary of State, at the city of Albany, this third day of May, in the year one thousand eight hundred and ninety-five.

ANDREW DAVIDSON,

*Deputy Secretary of State.*



BY-LAWS  
OF THE  
**New York Zoological Society.**

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ARTICLE I.

MEETINGS OF THE SOCIETY.

SECTION 1. The office and place of business of the New York Zoological Society shall be in the City of New York, unless otherwise ordered.

SEC. 2. The Society shall hold its annual meeting for the election of Managers, and other business, on the second Tuesday of January, or such day thereafter during the month of January to which said annual meeting shall adjourn.

SEC. 3. Special meetings of the Society shall be called by the Secretary, upon the request of the President or the Chairman of the Executive Committee, or at the written request of ten members.

SEC. 4. Notices of all meetings shall be mailed to each member of the Society at least three days before such meeting.

SEC. 5. At meetings of the Society twenty members shall constitute a quorum.

SEC. 6. The order of business shall be as follows :

1. Roll call.
2. Reading of minutes not previously read.
3. Report of Executive Committee.
4. Report of Secretary.
5. Report of Treasurer.
6. Report of Director.
7. Election of Managers.
8. Communications.
9. Miscellaneous business.
10. Reports and resolutions.

ARTICLE II.

BOARD OF MANAGERS.

SEC. 1. The Board of Managers shall consist of thirty-six members, together with the Mayor of New York and President of the Park Board, or Commissioner for the Bronx, who shall be members *ex-officio* of the board.

SEC. 2. Nineteen managers shall constitute a quorum, but ten managers may transact current business, and adjourn, subject to the subsequent approval of a meeting at which a quorum shall be present.

SEC. 3. The Board of Managers shall hold an annual meeting on the third Tuesday of January, or on such day thereafter to which said annual meeting shall adjourn. Regular meetings of the Board may also be called by the Secretary on the third Tuesdays of October and April, upon the request of the President or Chairman of the Executive Committee. Special meetings of the Board shall be called at any time by the Secretary, upon the request of the President or the Chairman of the Executive Committee, or at the written request of five Managers.

SEC. 4. Notices of meetings of the Board shall be mailed to each Manager at least three days before such meetings.

SEC. 5. The successors to the outgoing class of Managers shall be elected by the Society at its annual meeting, but vacancies in the Board may be filled for the unexpired term by the Board of Managers, or by the Executive Committee.

SEC. 6. A Nominating Committee shall be annually appointed by the Executive Committee, and shall consist of three members of the Society at large, who shall nominate and post ten days before the annual election the names of twelve persons to succeed the outgoing class of Managers in a conspicuous place in the office of the Society.

SEC. 7. No person shall be eligible for election to the Board of Managers, except to fill vacancies, unless his name shall have been posted as a candidate by such Committee, or by not less than ten members, in writing, in a conspicuous place in the office of the Society ten days before the annual election.

SEC. 8. Any Manager who shall fail to attend three consecutive meetings of the Board, unless excused by vote of the Board, shall cease to be a Manager.

SEC. 9. The Board of Managers shall at its annual meeting elect a President, two Vice-Presidents, a Secretary and a Treasurer, who shall hold office for one year, or until their successors are elected. The President, Vice-Presidents and Treasurer shall be members of the Board.

SEC. 10. The Director of the Zoological Park, and all other persons employed by the Society, shall be appointed by the Board or by the Executive Committee, and shall hold office during the pleasure of the Board.

SEC. 11. The Board shall, at its annual meeting, elect an Executive Committee and Auditing Committee, which shall hold office for one year, or until their successors are elected. The Board of Managers and the Executive Committee shall also have authority to appoint such other Committees or Officers as they may at any time deem desirable, and to delegate to them such powers as may be necessary.

SEC. 12. The order of business of the meetings of the Board shall be as follows :

1. Roll call.
2. Reading of minutes not previously read.
3. Report of Executive Committee.
4. Report of Secretary.
5. Report of Treasurer.



6. Report of Auditing Committee.
7. Report of Director.
8. Election of Officers.
9. Election of Committees.
10. Election of new members.
11. Communications.
12. Miscellaneous business.

SEC. 13. All reports and resolutions shall be in writing, and the ayes and nays may be called on any resolution at the request of one Manager.

SEC. 14. Whenever the funds of the Society shall permit, the Board of Managers or the Executive Committee may award medals or other prizes for meritorious work connected with the objects of the Society.

### ARTICLE III.

#### OFFICERS.

SEC. 1. The officers of the Society shall consist of a President, two Vice-Presidents, a Treasurer, a Secretary and a Director of the Zoological Park. These officers, with the exception of the Director, shall be elected at the annual meeting of the Board of Managers, but any vacancy may be filled for an unexpired term by the Board of Managers, or by the Executive Committee, until the next annual election.

SEC. 2. The President shall preside at all meetings of the Board and of the Society, and shall be *ex-officio* a member of the Executive and Auditing Committees.

SEC. 3. The Vice-Presidents shall, in the absence of the President, perform his duties and possess his powers, acting in the order of their election.

SEC. 4. The Treasurer shall receive, collect and hold, subject to the order of the Board of Managers, or the Executive Committee, all dues, subscriptions, fees and securities. He shall pay all bills as ordered by the Board of Managers or the Executive Committee, and shall report to the Society at its annual meeting, and to the Board of Managers at all regular meetings and to the Executive Committee at each meeting. He shall keep all moneys and securities in some bank or trust company to be approved by the Board of Managers or Executive Committee. The books of the Society shall at all times be open to the inspection of the Managers.

SEC. 5. The Secretary shall be a salaried officer of the Society. He shall be present, unless otherwise relieved by the Board or Executive Committee, at all meetings of the Society, of the Board and of the Standing Committees. He shall keep a careful record of all proceedings, shall have the custody of the seal, archives and books, other than books of account, and shall conduct the correspondence of the Society. He shall issue all notices and tickets and shall perform such other duties as the Board may direct. He shall be a member *ex-officio* of the Executive and Auditing Committees and of the Scientific Council.

SEC. 6. The Director of the Zoological Park shall be elected annually by the Executive Committee at a salary to be determined by said Commit-

tee, and paid monthly from funds of the Society.\* He shall be the responsible administrative officer of the Park, and shall recommend to the Executive Committee candidates for the various positions in the Park. He shall also perform all such other duties in connection with the business, scientific and literary administration of the Society as may be assigned to him by the Executive Committee.

#### ARTICLE IV.

##### COMMITTEES.

SEC. 1. There shall be two standing committees, the Executive Committee and the Auditing Committee, which shall hold office for one year or until their successors are elected.

SEC. 2. The Executive Committee shall consist of seven Managers, together with the President and Secretary of the Society *ex-officio*. Four members shall constitute a quorum, and all meetings shall be called by the Chairman. The Executive Committee shall fill all vacancies in its own number and shall have the full powers of the Board of Managers, except so far as such delegation of power may be contrary to law.

SEC. 3. The Executive Committee shall have the control and regulation of the collections, library and all other property of the Society, and shall have power to purchase, sell and exchange specimens and books, to employ and control all officials and employees of the Society and Park, and generally to carry out in detail the directions of the Board of Managers and the terms of any contract between the City, or Park Board, and the Society.

SEC. 4. All the rules and regulations for the examination of applicants for the various positions in the Park shall be made or approved by the Executive Committee.

SEC. 5. The Executive Committee may regulate the auditing and payment for all current accounts.

SEC. 6. The Executive Committee shall annually appoint a Nominating Committee, whose duties and powers are set forth in Sections 6 and 7, Article II. of these By-Laws.

SEC. 7. It shall also appoint a Scientific Council whose powers and duties are set forth in Section 2 of Article V. of the By-Laws.

SEC. 8. The Committee shall make a written report at each regular meeting of the Board of Managers.

SEC. 9. The Auditing Committee shall consist of three regular members of the Society, in addition to the President and Secretary, members *ex-officio*, and vacancies shall be filled by the Executive Committee. It shall be the duty of the Auditing Committee to audit, annually, the accounts of the Treasurer and of the Director, and any other accounts of the Society, and shall report to the Board of Managers at its annual meeting.

\*Until such time as he enters fully upon his public administrative duties.

## ARTICLE V.

## SCIENTIFIC COUNCIL.

SEC. 1. The Executive Committee shall annually appoint a Scientific Council of not more than ten members, and shall fill all vacancies. Members of the Council shall hold office until their successors are appointed.

SEC. 2. The duties of the Council shall be to act as an advisory board in all matters pertaining to the scientific administration of the Society, and especially as to the scientific features of the Park, the promotion of zoology by publications and otherwise, and the preservation of the native fauna of America.

SEC. 3. Four members, including the Chairman, shall constitute a quorum. The Chairman shall be elected annually by the Council. The Secretary of the Society shall be a member and Secretary *ex-officio* of the Council.

## ARTICLE VI.

## MEMBERS.

SEC. 1. The present members and such others as shall become associated with them, under the conditions prescribed by the By-Laws, shall be members of this Society as long as they shall comply with the By-Laws.

SEC. 2. Members failing to comply with these By-Laws, or for other good and sufficient cause, may be expelled from the Society by the Executive committee.

SEC. 3. Candidates for membership shall be proposed and seconded by members of the Society. The name, occupation and place of residence of every member so proposed shall be submitted for election to the Board of Managers or the Executive Committee, and such person, when elected, shall become a member upon payment of the annual dues, or of the fees as prescribed below.

SEC. 4. The annual dues shall be ten dollars, payable in advance, on the first day of May of each year, but the Executive Committee may remit the dues for the current year in the case of members elected between January 1st and May 1st of each year. The classes of membership shall be as follows:

SEC. 5. The payment of \$200 at one time shall constitute any member a Life Member.

SEC. 6. The payment of \$1,000 at one time, or in the case of a Life Member, of \$800, shall constitute any member a Patron.

SEC. 7. The payment of \$2,500 at one time, or in the case of a Patron of \$1,500, or of a Life Member of \$2,300, shall constitute any member an Associate Founder.

SEC. 8. Any member who shall donate to the Society \$5,000, or property of equal value, or any Associate Founder who shall donate \$2,500, or any Patron who shall donate \$4,000, may be elected by the Board of Managers or Executive Committee a Founder.

SEC. 9. Any member who shall donate to the Society \$25,000, or any Founder who shall donate \$20,000, may be elected by the Board of Managers or Executive Committee a Benefactor.

SEC. 10. Persons who have rendered marked service in the science of zoology or natural history may be elected Honorary Members, but not more than three such Honorary Members shall be elected in any one calendar year.

SEC. 11. Residents who have rendered scientific services to the Society, or marked services in zoology or natural history, may be elected as Permanent Fellows.

SEC. 12. Non-residents who communicate valuable information to the Society, or who have rendered marked service in the science of zoology or natural history may be elected Corresponding Members.

SEC. 13. Benefactors, Founders, Associate Founders, Patrons, Life Members, Honorary Members, Permanent Fellows and Corresponding Members shall be exempt from annual dues.

## ARTICLE VII.

### PRIVILEGES OF MEMBERS.

SEC. 1. A member's ticket admits the member and his immediate family to the Park on reserve days, and to all lectures and special exhibitions, and may be used by the member's immediate family, and shall be good for the current year.

SEC. 2. Admission tickets, each admitting two persons on reserve days, are issued to members for distribution, and are good for the current year.

SEC. 3. Each member of the Society is entitled annually to a member's ticket and to ten admission tickets.

SEC. 4. Each member shall also receive one copy of the catalogue or handbook, the report and official publications of the Society, and shall have all the privileges of the Library and Members' Building.

SEC. 5. No member shall be entitled to the privileges enumerated in this Article unless his annual dues shall have been paid.

SEC. 6. The Life Members shall have all the privileges of Members and ten additional admission tickets.

SEC. 7. Benefactors, Founders, Associate Founders and Patrons shall have all the privileges of Life Members, and shall in addition receive copies of all scientific works published by the Society.

SEC. 8. Any member who shall fail to pay his annual dues within three months after the same shall have become due, and after notice of thirty days, by mail, shall cease to be a member of the Society; subject, however, to reinstatement by the Board of Managers or Executive Committee for good cause shown.

SEC. 9. Any person elected to membership who shall fail to qualify within three months after notice of his election shall be considered to have declined his election; but such term may be extended by the Board of Managers or Executive Committee.

## ARTICLE VIII.

## FINANCES.

SEC. 1. The fiscal year of the corporation shall be the calendar year commencing January 1st and ending December 31st.

SEC. 2. Neither the Society nor any of its Managers or Officers shall contract any debt which, with existing debts, shall exceed in amount the funds then in the Treasury.

## ARTICLE IX.

## AMENDMENTS.

SEC. 1. Amendments to these By-Laws may be proposed, in writing, at any meeting of the Board of Managers, and adopted by unanimous consent of the Managers present, or if such proposed amendment shall fail to receive unanimous consent, the Secretary shall, with the notices of the next meeting, send a copy of it to each Manager and state that it will be brought up for action at such meeting, when it may be passed by a majority vote.

## GRANT OF SOUTH BRONX PARK

TO THE

# New York Zoological Society.

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At a special meeting of the Commissioners of the Sinking Fund, City of New York, held on March 24, 1897, a resolution was passed allotting South Bronx Park for the use of the New York Zoological Society upon conditions entirely satisfactory to the Society.

The full text of the resolution is as follows :

WHEREAS, by chapter 435 of the Laws of 1895, entitled "An act to incorporate the New York Zoological Society and to provide for the establishment of a Zoological Garden in the City of New York," it is provided that the Commissioners of the Sinking fund of the City of New York are authorized in their discretion to allot, set apart and appropriate, for the use of said corporation, any of the lands belonging to said city north of 155th Street, but not in Central Park,

RESOLVED, that the said Commissioners of the Sinking Fund do hereby allot, set apart and appropriate for the use of said corporation, a tract of land in the southern portion of Bronx Park, embracing an area of about 261 acres, and consisting of so much of said park as lies south of Pelham Avenue, upon the following terms and conditions, to wit :

*First.* That said grounds thus set apart and appropriated, shall be used for no other purpose whatsoever except for the purposes of said Zoological Garden as the same are specified in the act aforesaid, and that said appropriation of said lands hereby made shall be revoked if, after the expiration of three years from the date of the commencement of the work by the Park Department for the necessary improvement of the grounds as referred to and described in the sixth paragraph of this Resolution, a Zoological Garden is not established upon said tract of land.

*Second.* That the original equipment of buildings and animals for said Zoological Garden shall be paid for from funds contributed by the New York Zoological Society, and that said Society shall, before it enters into occupation of the allotted land and within one year from the date of this Resolution, raise one hundred thousand dollars by subscription, and within three years from the date of the commencement of the work by the Park Department for the necessary improvement of the grounds as referred to and described in the sixth paragraph of this Resolution, the further sum of at least one hundred and fifty thousand dollars. If the said Society shall fail or neglect to raise said funds within the periods respectively fixed therefor,

it shall, on demand of the Commissioners of the Sinking Fund, surrender to the City of New York the land allotted to it as a site for said Garden, and all improvements made thereon. The said Society shall not mortgage its buildings or animals, or any of its property within said Garden, which is directly or indirectly maintained by the City of New York.

*Third.* The said Zoological Society shall have the power to establish an endowment fund from the donations and bequests, which fund shall be used solely, unless otherwise specified by the donors thereof, for the general uses and purposes of said Society. The funds of said Society, other than the sums contributed to said endowment fund, shall be expended upon buildings and other enclosures for animals, for the collections of animals, and for the general purposes of the Society. Among the funds thus to be expended shall be the subscriptions of members, life members and patrons, and all cash donations to said Society, other than those made for the purposes of the endowment fund, and all moneys derived from the sale of animals; and the net proceeds of the privileges that may be developed in said Garden, such as refreshments, boating, riding animals, the sale of photographs, etc., shall be used for, and expended in the increase of the collections; and payments from the funds of such Society, including the endowment fund, shall be made directly from the treasury of the Society.

*Fourth.* The library, pictures, maps, office furniture, and other movable property purchased and owned by the Society shall remain the property of the Society, and excepting living animals, may be removable at will, and every piece of such property shall bear a distinguishing mark. But no buildings, aviaries or cages may be sold or removed by said Society without the written consent of the Board of Parks. All property paid for from the maintenance fund, hereinafter referred to, shall belong to the City.

*Fifth.* So long as the said Society is entrusted with the control and management of the said Zoological Garden, and the city provides for the proper maintenance and care of the animals and collections therein, the said Society shall not remove any of its animals or collections for exhibition elsewhere without the consent of the Board of Parks, but if the City shall ever cease to provide for the proper maintenance and care of the said animals and collections, the said Zoological Society shall have the right, upon giving three months' notice in writing to the Board of Parks, to remove the said animals and collections owned by it. The said Society shall have the right to improve its collections by the exchange of animals, and also by the sale of animals not needed for exhibition; but all moneys derived from such sale or exchange of animals shall be used only for the purpose of increasing said collections.

*Sixth.* The City of New York shall annually provide the necessary funds for the maintenance and care of the Zoological Garden, its buildings, inclosures and other improvements made from time to time therein, and the animals and collections of said Society; but the appropriation for the first year is not to exceed Sixty thousand dollars (\$60,000). It shall be the duty of the City to provide from such sums or appropriations, as may be applicable thereto, the cost of the necessary improvement of the ground

prior to the erection of buildings and inclosures, including such roads, walks, fences, grading, water supply, drainage and heating as may be or become necessary for the proper development of said Zoological Garden, all of which work of preparation and construction shall be performed in conformity with the plans therefor to be agreed upon between the Park Department and the Zoological Society. The said City shall also furnish the necessary supply of water, and adequate police patrol and protection, and the salaries of all persons employed directly in the service and development of the Zoological Garden shall be paid from the maintenance fund, and from such other funds as may be available for and applicable to the purpose. Payments from the maintenance fund shall be made upon vouchers filed with the Comptroller and drawn in such form as he may direct; and said Society shall annually render to the Mayor of the City of New York, a report showing all expenditures during the year then past, made on account of the said Zoological Garden, all revenues and resources thereof, a statement of the number of the members of said Society, of the donations received and of the number of animals in the Garden, the chief items of improvement made during the year, and all other information that the said Mayor may require.

*Seventh.* The Park Department shall at all times have access to the grounds, buildings and other inclosures of the said Zoological Society for general police visitation and supervision, and for all other lawful purposes. Prior to the commencement of any work on said Garden the general plan therefor shall be submitted to and approved by the Park Board, and all subsequent plans for buildings, roadways and paths shall also be so submitted and approved. No living tree shall be cut down or removed, except by the express authority of said Park Department, but the said Zoological Society shall have the right to remove dead trees and such bushes as it may be necessary to remove in the preparation of inclosures for animals, or in making other improvements. The said Department of Parks shall plant such and so many shade trees, aquatic plants, shrubs and flowers as may be necessary to enhance and secure the seclusion, beauty and usefulness of the park, and shall do and perform all the work of gardening necessary to carry out the general plan of improvement and the subsequent plans as may be agreed upon between the said Zoological Society and the said Department of Parks.

*Eighth.* The said Zoological Garden and its collections shall be free to the public without the payment of any admission fee or gratuity whatsoever for not less than seven hours a day on at least five days of the week, one or which shall be Sunday, and also on all legal holidays and half holidays, subject to such reasonable regulations as may be made by said Society, but the said Society may close the area devoted to the collections of animals on not more than two days in each week, and on such days may charge an admission fee which shall be fixed by said Society, and all moneys derived from such admission fees shall be expended by said Society in the increase of the collections or in the improvement of said Garden or its buildings; but the portion of the grounds situate east of Boston Road, and all the Bronx River below the Boston Road bridge shall be open to the public

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at all times as pleasure grounds, subject to such reasonable regulations as may be adopted by said Society with the approval of the Park Department, and the occupancy of that portion of the park by herds of animals or by collections, shall be subject to the consent of the Park Department.

*Ninth.* The said Zoological Society shall have the right and power to appoint, direct, control and remove all persons and officers employed by them in and about the Zoological Garden, and to fix the salaries of such persons and officers and to make promotions, but all regular employees shall be chosen, and their salaries fixed and promotions made, by reason of special fitness and ability.

*Tenth.* Subject to the conditions hereinbefore contained, the said Zoological Society shall exercise entire control and management over all the affairs of the said Zoological Garden.

## ACT PROVIDING FOR GROUND IMPROVEMENTS IN THE ZOOLOGICAL PARK.

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### CHAPTER 510.

AN ACT to provide for the improvement of a portion of Bronx Park in the City of New York to be allotted and set apart to the New York Zoological Society.

Accepted by the City. Became a law May 18, 1897, with the approval of the Governor. Passed, three-fifths being present.

*The People of the State of New York, represented in Senate and Assembly, do enact as follows :*

SECTION 1. Whenever the commissioners of the sinking fund of the city of New York shall, pursuant to the provisions of section seven of an act entitled "An act to incorporate the New York Zoological Society, and to provide for the establishment of a zoological garden in the city of New York, being chapter four hundred and thirty-five of the laws of eighteen hundred and ninety-five," allot, set apart and appropriate for the uses of the said corporation, a portion of Bronx park, in the city of New York ; and in making such allotment shall by contract executed between the said commissioners of the sinking fund and the said zoological society, or otherwise, fix the terms and conditions upon which said land shall be so allotted, and thereafter had, used and occupied, pursuant to the provisions of the said act ; the department of public parks in the city of New York shall forthwith make such improvements upon the said portion of Bronx park so allotted, set apart and appropriated as shall be necessary to provide proper sites for the buildings and fenced enclosures for the animal collections of said society, and for the use of said land in carrying out the objects and purposes of the said society and for the accomodation of the public ; roads and approaches ; the excavation and construction of pools and ponds ; the grading of building sites and other parts of said land ; the construction of a system of drains and sewers ; the construction of water supply and heating plants ; the erection of the necessary fences and guard-rails or barriers ; the macadamizing or paving of enclosures for large animals, the construction of suitable entrances ; planting of trees, shrubs and plants, and at least two buildings for the public comfort, and in addition such other changes or improvements as may be deemed necessary for the use of said ground as a public zoological garden or park, by said society pursuant to the provisions of said act ; and the conditions or provisions on which the same has been allotted to or is held by said society.

SEC. 2. Such improvements, construction and erections shall be made pursuant to general plans to be made and prepared by said the New York Zoological society, when approved by said department of public parks ;

